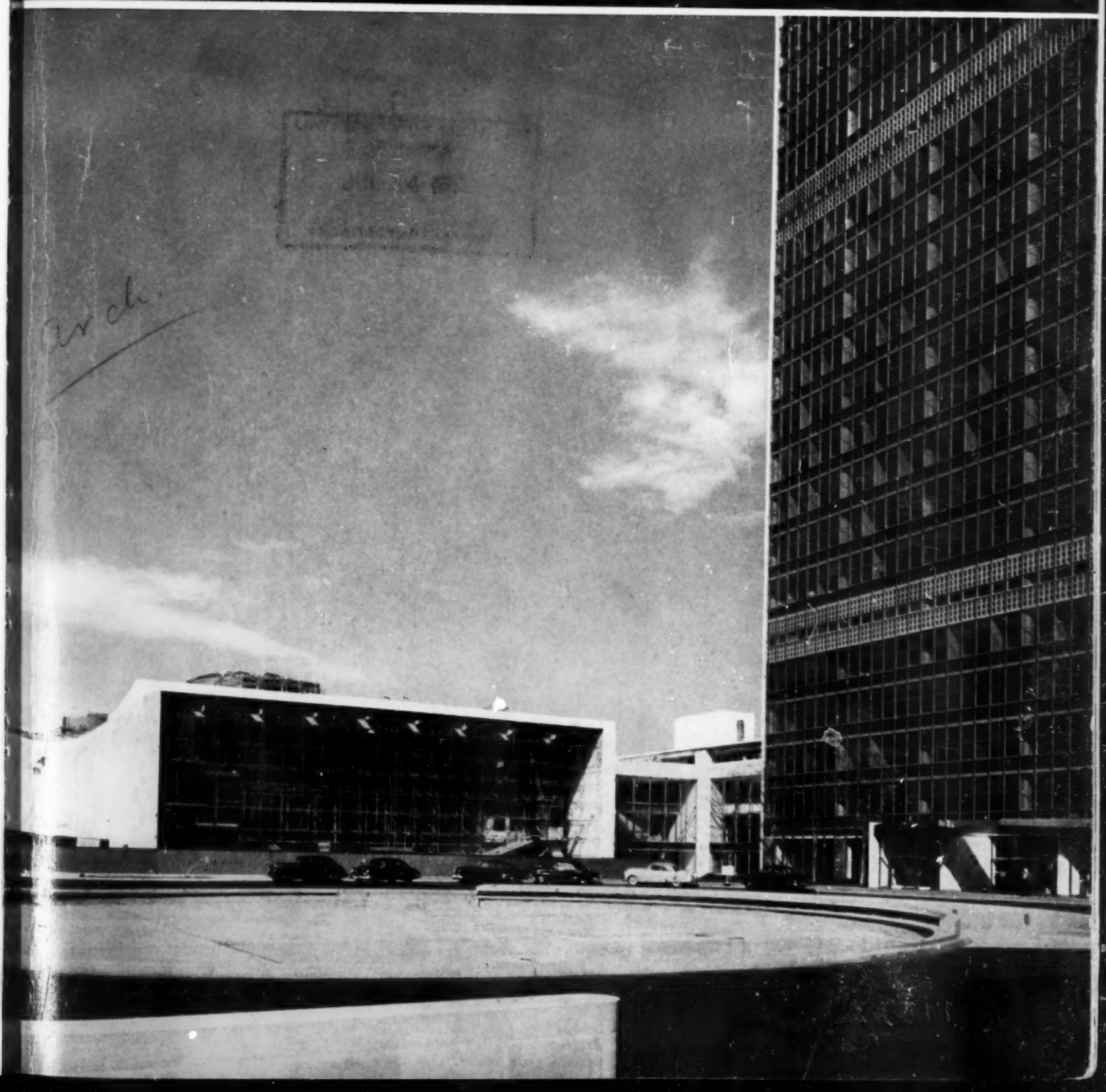
ARCHITECTURAL RECORD

JULY 1952



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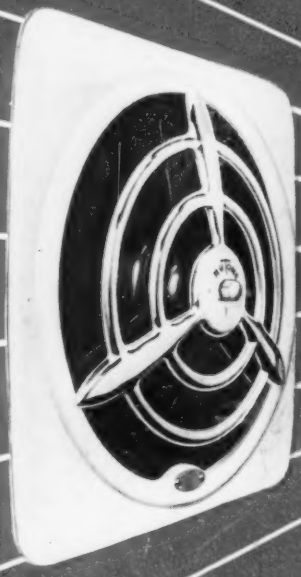

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THE RECORD REPORTS

President and chairman: Glenn L. Stanton and Arthur A. Holden

THE A. I. A. MEETS IN NEW YORK

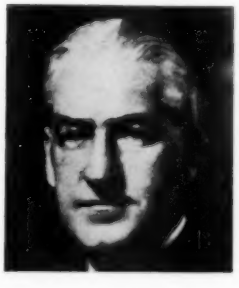
AN ADVANCE REGISTRATION of 600 and hotel room registrations of 1200 for the 84th annual convention of the American Institute of Architects June 24–27 were reported as this issue of the RECORD went to press a week before the convention opened.

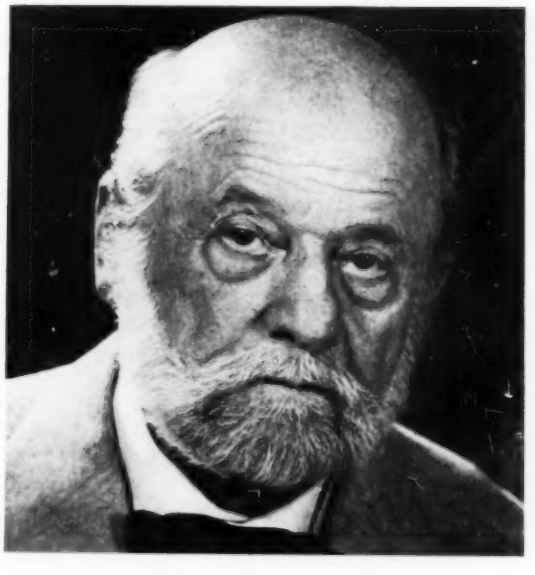
It looked as though this year's session, the A.I.A.'s first in New York for 27 years, would follow the pattern of recent years and be a record-breaker attendance-wise.

In most other respects, however, the convention as planned by the committees headed by Arthur A. Holden, F.A.I.A., New York regional director and general chairman of arrangements for the convention, was breaking sharply from the trend of recent conventions.

(*Continued on page 12*)

New honorary members: Robert Moses, N.Y.C. Coordinator of Construction (et cetera), and John Riley, N.Y.C. Coordinator of School Construction





William Stanley Parker, F.A.I.A., Edward C. Kemper Award winner (above), Auguste Perret of France (at right and in Al Bendiner cartoons), 1952 A.I.A. Gold Medallist. Below: (left) George Nakashima, Craftsmanship Medal winner, (right) Marshall Fredericks, sculptor, Fine Arts Medal winner

NPA GLUM ON STEEL, UPS COPPER, ALUMINUM USERS

THE STEEL STRIKE plunged Washington into official protestations of gloom over the outlook for a quick return to a "normal" civilian economy; and at the National Production Authority these took the form of a glum announcement that the easing of steel curbs and ending of the ban on amusement buildings promised for July 1 would be postponed.

Only a few days later surprise amendments to CMP Regulation 6 and M-100, the basic housing construction regulation, made substantial increases in self-authorization allowances of copper and aluminum for all construction except public roads and recreational buildings.

Copper increases were made possible, NPA said, because of the decline in world copper prices which followed lifting of the U.S. price ceiling late in May. More aluminum is available, according to NPA, because expected civilian demand "has not materialized in full"—a restrained translation of the cries of oversupply which have been coming from producers for many months.

Commercial construction was allowed 750 lb of copper per project instead of 200; 1000 lb of aluminum instead of none. One- to four-family dwellings got 50 instead of 35 lb of copper (steel water pipes) and 175 against 135 (copper pipes).

REGULATION X RELAXED; BUILDERS: "NOT ENOUGH"

THE LONG-AWAITED RELAXATION of Regulation X came last month, but the reaction it drew from the industry made it seem far from a bonanza.

(*Continued on page 12*)

RICHARDS LEAVES FHA

FRANKLIN D. RICHARDS, since 1947 commissioner of the Federal Housing Administration, resigned his post effective June 30 to open his own mortgage brokerage and financing office in Washington.

Mr. Richards, who succeeded Raymond M. Foley as FHA commissioner, had been connected with FHA since 1934, when he was appointed FHA director for the state of Utah. He was born in Ogden, Utah, in 1900 and practiced law in Salt Lake City from 1923 until he joined FHA.

FCDA ISSUES NEW MANUAL

"IMPROVEMENT OF SHELTER AREAS," Part II of the Federal Civil Defense Administration's long-scheduled series on design of bomb shelters, was published last month. Copies (15 cents each) are available from the Government Printing Office.

The new technical manual, which includes instructions and drawings, is intended primarily for architects and engineers. Frederic A. Pawley was the A.I.A. member of a reviewing panel.

REGULATION X (*Continued from p. 11*)

The National Association of Home Builders called the action only a "token" relaxation of "Regulation Axe" and predicted it would be little help "to families in need of housing."

N.A.H.B. President Alan Brockbank, who described Regulation X as "the greatest obstacle to home ownership ever faced by the home-buying public," said the credit restriction must be removed completely.

"We will take the home buyer's case direct to Congress," Mr. Brockbank said. "There is no good reason for retention of these credit curbs over housing."

Lumber Dealers Protest

Another quick protest came from the National Retail Lumber Dealers Association, whose executive vice president, H. R. Northup, called the revision "extremely disappointing," offering "no important relief" to families seeking any but the lowest-priced homes.

REVISED REGULATION X SCHEDULE OF DOWNPAYMENTS

Value (Transaction Price) Per Family Unit	Non-Veteran (FHA) and Conventional Minimum Down Payment		VA Loans	
	Dollar Amount	Per Cent Of Value	Dollar Amount	Per Cent Of Value
$ 5,000	$ 250	5.0	$ 0	0.0
6,000	300	5.0	0	0.0
7,000	350	5.0	0	0.0
8,000	950	11.9	380	4.8
9,000	1,200	13.3	480	5.3
10,000	1,450	14.5	580	5.8
11,000	1,900	17.3	740	6.7
12,000	2,350	19.6	900	7.5
13,000	2,800	21.5	1,450	11.2
14,000	3,250	23.2	2,000	14.3
15,000	3,700	24.7	2,550	17.0
16,000	4,250	26.6	3,100	19.4
17,000	4,800	28.2	3,670	21.6
18,000	5,350	29.7	4,240	23.6
19,000	5,900	31.1	4,810	25.3
20,000	6,450	32.2	5,380	26.9
21,000	7,000	33.3	5,950	28.3
22,000	7,750	35.2	6,650	30.2
23,000	8,500	37.0	7,350	32.0
24,000	9,250	38.5	8,050	33.5
25,000	10,000	40.0	8,750	35.0
Over $25,000	—	40.0	—	35.0

A.I.A. CONVENTION (*Continued from page 11*)

First, the program had been "streamlined," to meet objections reported to Chairman Holden to recent working conventions so crowded with events that, for example, last year's had to be set up with a dual program — two sets of seminars running concurrently. This year's program had a total of three seminars, all on the technical theme "Structural Resources for Architectural Design."

Another objective of the streamlining, according to the committee, was to free visiting architects to spend the maximum amount of time enjoying New York; and the most elaborate efforts of the committee were devoted to arranging a wide variety of tours and trips to promote this enjoyment.

Second, the choice of speakers for the major addresses of the convention brought non-architects to a position of prominence on the program that they have not until this year attained. Of four major speakers at this year's convention, only one, Hugh Ferriss, newly-elected president of the New York Chapter of the A.I.A., was an architect. The others were Pyke Johnson, president of the Automotive Safety Foundation; Ernest T. Weir, chairman of the Republic Steel Corporation; and (at the annual banquet) Deane W. Malott, president of Cornell University.

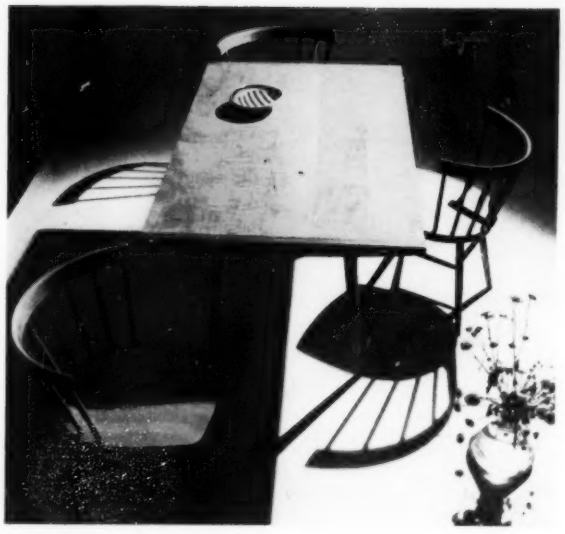
Behind the Convention

Matthew W. Del Gaudio was co-chairman of the 1952 convention committee headed by Mr. Holden; Alonzo W. Clark, secretary; Daniel Schwartzman, treasurer.

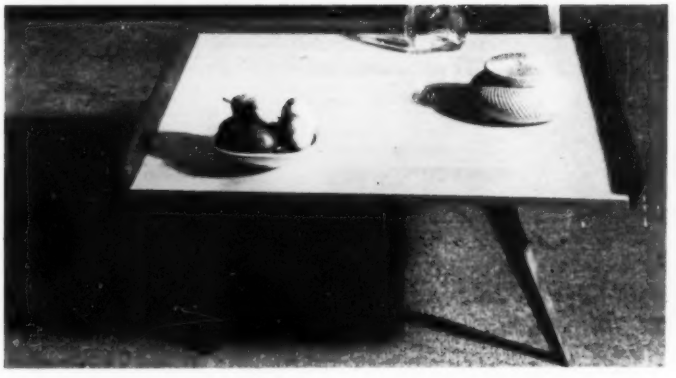
Host chapter and society representatives were: Vito Battista, Brooklyn Chapter; Michael A. Cardo, Bronx Chapter; George Cavalieri, New York Society; William C. Halbert, Westchester Chapter; Oswald Fischer, Queens Chapter; Francis Keally, New York Chapter; Theodore Koch, Staten Island Chapter; Joseph Watterson, L. I. Chapter; Harry Silverman, Brooklyn Society.

Subcommittee chairmen were as follows: Leopold Arnaud, Engineering Advancement Exhibit; William F. R. Ballard, City Planning Exhibit; J. Gordon Carr, Annual Dinner; Robert W. Cutler, Trips and Visits; Frederick J. Frost Jr., Opening Luncheon; Wallace K. Harrison, United Nations Exhibit; Albert F. Heino, Honor Awards; A. Gordon Lorimer, Building Products Exhibit; Geoffrey N. Lawford, Public Relations.

Also Julian Clarence Levi, Reception; William Potter, Finance; Harold R. Sleeper, Building Industry Luncheon; Eldredge Snyder, Ladies Entertainment; Ralph Walker, Collateral Exhibits; Edgar I. William, Special Entertainment; John N. Linn, Tickets; Kenneth K. Stowell, Student Activities; Lawrence Grant White, President's Reception.



Only three Nakashima pieces are commercially available — Knoll Associates has these. At left: the chair, which has a frame of clear birch, mortised and tenoned joints. At right another chair, this one available in walnut or cherry as well as in birch. Below right: the table (38 x 34 x 16⅝ in.) has solid birch top, walnut sides and legs.



The English oak burl coffee table (below) is one of Nakashima's custom designs, was made from a log that was originally brought to this country as ballast on a ship, resisted an attempt to burn it, and finally was sawn. "It stood in my shop for about a year until we evolved a design for it," Nakashima says. The photograph of Nakashima on page 11 shows him beside the next board of this same log.

KNOLL EXHIBITS WORK OF A.I.A. CRAFTSMANSHIP MEDAL WINNER

ONE OF THE MANY New York exhibits timed to coincide with the national convention of the American Institute of Architects was Knoll Associates' showing of the work of George Nakashima, who received this year's A.I.A. Craftsmanship Medal.

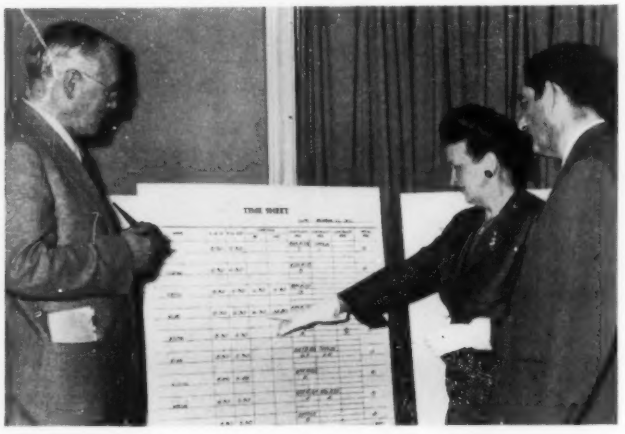
An architect turned woodworker, Mr. Nakashima executes nearly all of his designs in his own shop near New Hope, Pa. He believes very firmly that design and execution are too far apart these days: "There is too much of the conception of form and the imposition of it to manufacture with a complete separation of the designer and the mechanic," he says. "That is probably why we have yet to achieve a truly honest contemporary product in wood, either in architecture or in furniture, in relation to the fine machinery at our disposal. We are all fouled up in catchwords such as 'modern' and 'traditional' and avoid the real issues. A new type of man must be born who is as capable with machinery and tools as he is with a pencil. There is no doubt that, in the final analysis, the tool is more sensitive than the pencil."

Knoll Associates does have three Nakashima designs (shown above) for distribution; otherwise Mr. Nakashima's pieces are all custom work. His tools are modern power lathes and ancient Japanese saws and chisels; he uses local woods, buying standing trees — ash, walnut, birch, oak, poplar, cherry — from the countryside around him. Much of his stock is air-dried, for about six months; the rest is kiln-dried.

Mr. Nakashima feels strongly about finishes. "Varnish," he says, "has a chilling effect on wood. Never can aging or the subtle weathering of a fine piece of wood take place if it has been varnished. Woods should be waxed or oiled."

Mr. Nakashima, who has architectural degrees from the University of Washington and Massachusetts Institute of Technology as well as a diploma from Fontainebleau, practiced architecture for six years in Japan and India and five years on the West coast.

Seminar: Architectural Accounting Systems. Neil J. Convery (left), moderator, Miss Ellis Leigh and Joseph Abel, speakers



Gruber's Photo Centre

Seminar: Architectural Public Relations. Searle H. von Storch, Moderator Victor M. Reynal, John Caulfield Smith and Harold Sleeper, F.A.I.A., and President Elmer S. Tuthill of the two New Jersey groups

FOCUS ON PUBLIC RELATIONS AT NEW JERSEY CONVENTION

ARCHITECTURAL PUBLIC RELATIONS, a subject by no means new to New Jersey architects, nevertheless made the biggest news at last month's Asbury Park convention of the New Jersey Chapter of the American Institute of Architects and the New Jersey Society of Architects.

How the Ontario Association of Architects spends the $5000 it allots to promotion was described in a frank, detailed and factual account by the Association's public relations director, John Caulfield Smith, a contributing editor of ARCHITECTURAL RECORD. Mr. Smith's description of the methods used in Ontario made his hearers feel that American architects have hardly gotten started in the field of professional public relations. His talk was followed by a barrage of questions and developed considerable sentiment for attempting to arrange a spot for Mr. Smith at the A.I.A. national convention.

The public relations program in New Jersey, as described by Victor M. Reynal, A.I.A., has allotted $1000 of a $2000 budget to paid newspaper advertising ("It pays to consult an architect before you build"). Other features: a speakers' bureau with a projector and slides; a brochure on architects' services, with a list of members of the two New Jersey groups.

Harold R. Sleeper, F.A.I.A., a member of the national A.I.A. Committee on Public Relations which was to present a special report to the national convention at the end of last month, outlined some of the possibilities envisaged by the committee. Public relations as a tool for the individual architect was discussed by Searle H. von Storch, A.I.A.

Accounting for Architects

Architectural accounting systems made the subject of the other major seminar at a very down-to-earth convention. Neil J. Convery, A.I.A., was moderator; speakers were Joseph H. Abel, A.I.A., of Washington, D. C., and Miss Ellis Leigh of the Office of Emil A. Schmidlin, A.I.A.

Officers Reelected

Elmer S. Tuthill of Summit, president of the two organizations, and the entire slate of officers were reelected by the convention, the second joint annual session. It had a total registration of over 600, including 230 architects, 50 per cent over last year's meeting.

Building Awards Given

Eleven certificates of award and one special award were given for entries in the third annual convention exhibition. Award-winning architects were: Vincent G. Kling, Philadelphia; Fenick A. Vogel, Caldwell, N. J.; Kelly & Gruzen, New York; Lawrence C. Licht, Frank E. Johnson Associate, Englewood, N. J.; Arthur Rigolo, Clifton, N. J.; Herman C. Litwack, Newark; Oren Thomas, Collingswood, N. J.

FUNCTION AND EXPRESSION IN ARCHITECTURE
By Lewis Mumford

THE ARCHITECTURAL LIFE
by William W. Wurster, Dean of Architecture, University of California

ARCHITECTURE AND SOCIETY
By Pietro Belluschi

THE INTERNATIONAL STYLE TWENTY YEARS AFTER
By Henry-Russell Hitchcock

HUMANITY— OUR CLIENT
By John Ely Burchard

RECORD WINS AWARDS

Three Certificates of Merit for editorial excellence were awarded to Architectural Record in this year's Industrial Marketing competition for business publications. The series on architectural philosophy (montage at left) was given an award as an outstanding series of articles, the June 1951 issue, with a Building Types Study on Schools and School Practice as an outstanding single issue; and the article on Pietro Belluschi's "Vacation House in Oregon" (July 1951) for outstanding graphic presentation

WITH ALUMINUM

THE most versatile building material of all—aluminum—will be available in plentiful supply when the current industry-wide expansion is completed.

Kaiser Aluminum alone is increasing its pre-Korea production of primary aluminum 132%. For example, the new Kaiser Aluminum plant at New Orleans soon will double its production—will become the largest primary aluminum reduction plant in the United States.

So you should plan now to incorporate light, strong, corrosion-resistant Kaiser Aluminum in your future construction.

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The defense program today is making heavy demands on Kaiser Aluminum production facilities. So you may not always find Kaiser Aluminum readily available for non-defense projects.

However, it may pay you to check with your Kaiser Aluminum dealer before you specify less-satisfactory substitute materials. For he still may be able to meet certain requirements from his stocks.

A few of today's modern aluminum applications

Shown here are a few of the modern applications in which aluminum was specified for its unique advantages in design, beauty and practicality.

These applications suggest the unlimited possibilities of your future designs—*with aluminum!*

Write for information

Write for full information about any Kaiser Aluminum building product—and for AIA files. 65 Kaiser Aluminum offices and warehouse distributors in principal cities. Kaiser Aluminum & Chemical Sales, Inc., Oakland 12, California.

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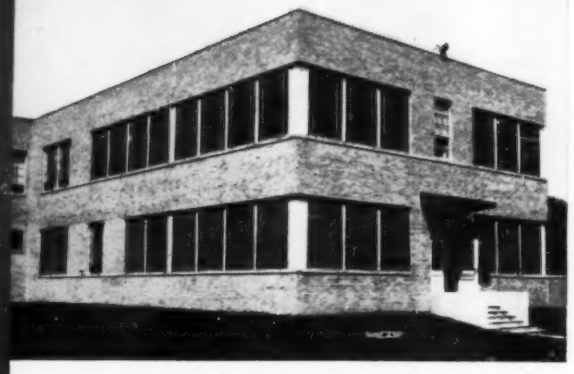


Kaiser Aluminum Shade Screening *on New Jersey offices of Chilcott Laboratories made air-conditioning feasible. Tiny louvers stop hot sun rays before they hit the glass, reducing heat to controllable levels. Glare effectively reduced. Soft, adequate illumination lessens eye-fatigue. Anodized finish requires no maintenance, no painting. Hinging makes windows easily accessible for cleaning.*

Kaiser Aluminum Ductwork *in Foley's Federated Department Store in Houston fabricated on the jobsite. Highly workable, easily joinable by standard methods, aluminum ducts were installed with less worker fatigue, less wear on equipment. Pound for pound, aluminum ductwork has three times the working surface of steel. Uninsulated, it delivers as much heat as insulated galvanized material.*

Kaiser Aluminum Roofing *is effectively used as a ceiling liner in a Golden State Dairy building at Van Nuys, California. Because it is so easy to clean, aluminum contributes to maximum sanitation. Because it's solid aluminum—not clad or veneered—this ceiling is highly resistant to rust and corrosion. Never requires painting. Virtually maintenance-free. Strong—durable—lasts for years. And because aluminum is so light in weight, it is far easier to install.*

FRANK LLOYD WRIGHT CONQUERS PARIS: AND VICE VERSA

Henry H. Reed Jr. Analyzes Reviews of Beaux Arts Exhibit; Even Communists Bow to "Most Famous American Architect"

TO FRANK LLOYD WRIGHT, who is not unaccustomed to public applause, the reaction of the Paris press to his work on exhibit this spring at the Ecole Nationale Supérieure des Beaux-Arts may have seemed only suitable, but its warmth and extent must have impressed him at least with the perceptiveness of French journalists. It was a minority, represented by Bernard Champigneulle of *Le Figaro littéraire*, which gently protested the sermonizing of the Sage of the Middle West. "Frank Lloyd Wright has come to Paris to preach a crusade against the skyscraper" was his ironical comment; after all, the city has only one, the 60-year-old Eiffel Tower.

The main stream of critical comment was not ironical.

"The inspiration of Frank Lloyd Wright is the boldest and most generous of the 20th century," announced André Chastel of *Le Monde*, the Paris equivalent of *The New York Times*.

"Frank Lloyd Wright, inventor of the space house, triumphs in Paris," was the title of the article of A. H. Martinie in *Arts*.

Even *Les Lettres françaises*, the Communist literary weekly, could not conceal its admiration for his work, although it complained that the exhibition was all part of the machinations of the State Department. "Frank Lloyd Wright is the most famous American architect," it told its readers; but warned them also that the exhibition itself was sponsored "by the American bureaus of propaganda."

It was a golden opportunity, to the great annoyance of the Communists, for our information services, and they outdid themselves in helping the writers. Maximilien Gauthier in *Les Nouvelles littéraires* was even equipped to quote the sculptor Horatio Greenough in discussing the background to Wright's work. There were very few mistakes and then only in captions — as in *Arts*, where a picture of the Robie house was identified as "la maison dans le désert."

As for the presentation, the French government matched our efforts by refurbishing the great Salle Foch of the Ecole. It was a welcome to the artist in the great tradition of France despite the fact, as André Chastel noted, that the recognition had come a little late. The tardiness may be forgotten when the setting is recalled: first of all, the Ecole itself on the Left Bank of the Seine; then, a few steps away, Le Vau's Institut de France and the Hôtel des Monnaies of Antoine; on the other bank of the river stretches the impassive façade of the Grande Galerie of the Louvre, and beyond, the garden of the Tuileries.

"Builder and poet" was the eloquent accolade of Chastel, for whom Wright is an architect who looks on "space as the true end of architecture."

His work is "stamped with a ferociously independent personality," wrote André Warnod in the daily *Le Figaro*, ". . . he considers architecture as a plastic art comparable to sculpture."

"True architecture for him goes beyond technical progress and meeting the demands of comfort," observed Martinie (*Arts*) "once those necessary conditions are answered — it is only a question of construction and livability — there remains that of beauty, and there lies the mission of the architect." He praised Wright's "mastery of imposing masses as well as his sense of proportion in handling voids and solids. . . ."

Gauthier (*Les Nouvelles littéraires*) was enchanted by the "organic" theory itself and particularly its expression in city planning, Broadacre City, "where each of us, we may be sure, would at last find conditions fundamental to our happiness."

The Communist Marcel Cornu, after complaining of the Marshall Plan, the Atlantic Pact, the *Reader's Digest*, and the presence in France of American soldiers, calmed his readers by saying that, after all, Wright had nothing to do with our foreign policy and that he represented the "other, true America." "A real pioneer," who as a child "ran barefoot in the fields and forests of his native land not far from the Great Lakes," Wright "loves and feels the countryside." Cornu praised especially the early work, which "we feel to be national, work which cannot be copied, but whose feeling has value for us."

"This architecture of fifty years ago is for us warmly sympathetic," he wrote,

(Continued on page 268)

WRIGHT'S GUGGENHEIM MUSEUM: DICTIONARY OF CLASSIC TERMS?

The Editor
ARCHITECTURAL RECORD

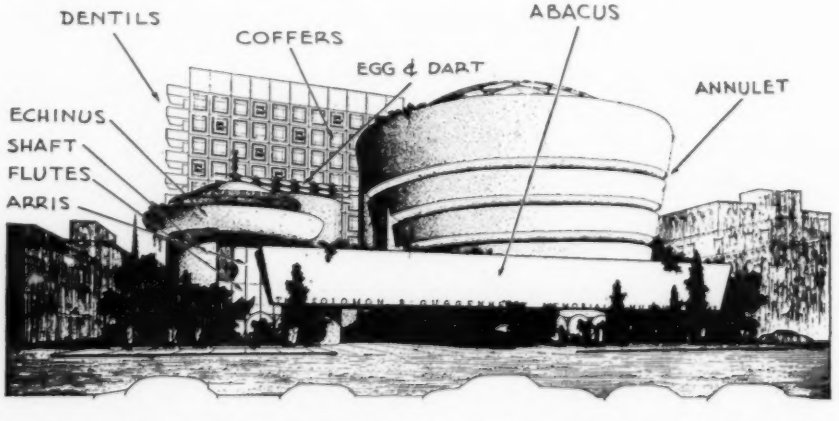
Dear Sir:

Younger men may be a bit rusty when confronted with terms used to describe parts of the Classic Orders, especially Greek Doric.

For those more at home in the modern idiom we append an illustrated dictionary of such terms, using for their benefit examples found in the Frank Lloyd Wright drawing of the Guggenheim Museum reproduced in your current issue.

Mr. Wright's scholarly approach to classic detail should give heart to die-hard traditionalists.

Yours sincerely,
Alfred D. Reid, A.I.A.



Alfred D. Reid's "illustrated dictionary"; the Wright drawing was one of the illustrations for Mr. Wright's article "Organic Architecture Looks at Modern Architecture" (ARCHITECTURAL RECORD, *May 1952, pages 148–154*)

tubes contribute to

success story

When both heating and cooling sides of a refrigeration system are put to work, it's a true heat pump *with important operating economies.* Here's an interesting example of such double duty. In the Hartford, Connecticut sausage plant of Mucke & Sons, process heat warms offices. ANACONDA Copper Tubing plays an essential part. Its excellent heat-transfer properties, corrosion resistance, and consistent uniformity make for high efficiency.

Primarily this system was designed to cool cooked sausage. However, it was apparent that *three* jobs could be done by the "heat" side. Designer Charles Charlton used heat removed from the sausage (1) to heat offices, (2) to provide washroom hot water, (3) as a reserve, stored underground, for use when sausage processing is not in operation.

Nothing succeeds like success. Results have been so encouraging that Mucke & Sons are thinking of expanding the system to make further use of the heat.

If this installation interests you, we will gladly forward a complete description on request. The American Brass Company, Waterbury 20, Connecticut. In Canada: Anaconda American Brass Ltd., New Toronto, Ontario.

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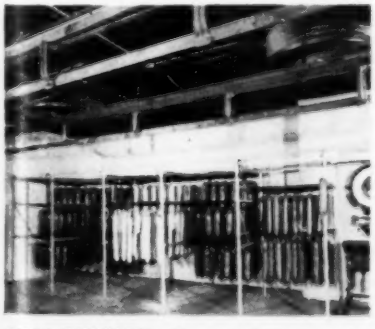


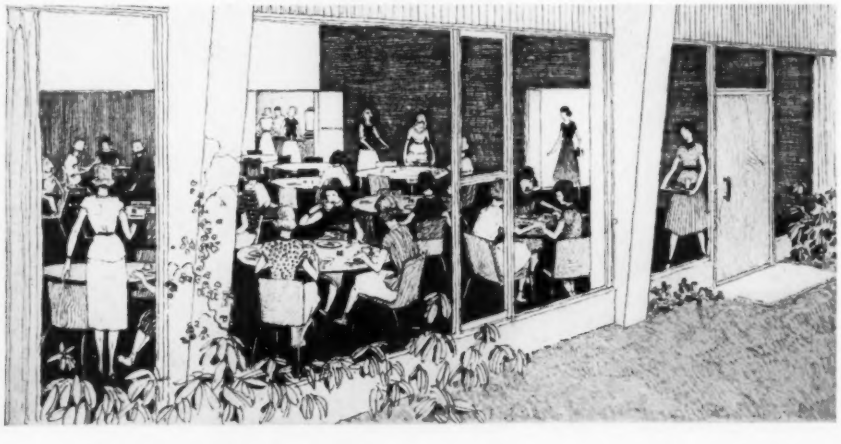
HEAT REMOVED – Corner of the sausage cooling room shows two of the circular convectors in the ceiling. Temperature is kept at 40° F. Cooler is 25 ft. x 35 ft. with a cooling load of 60,000 Btu per hour.

HEAT USED – Shown here is part of the 500 feet of copper coil embedded in concrete slabs in the floor of adjacent plant offices and other areas. This tubing circulates the refrigerant gas to furnish radiant heat.

modern piping calls for ANACONDA® copper tubes

WELLESLEY COLLEGE BUILDS TWO NEW DORMITORIES

Dining rooms form connecting link between dormitory units (above). Below (in order): cafeteria, dining room, students room and (bottom right) "quiet room" off living room



Need for Economy Brings Contemporary Design to Still Another Campus

THE 600-ACRE CAMPUS of 77-year-old Wellesley College is getting its first contemporary buildings for a familiar reason — in the words of a college announcement to alumnae about the new dormitories, "from economic necessity they will be simpler in design."

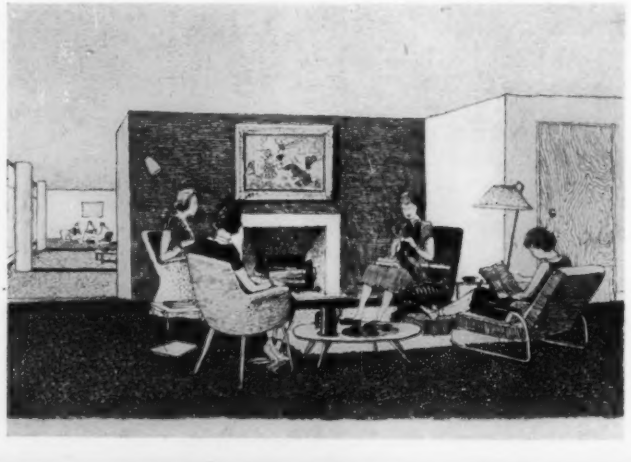
Coolidge Shepley Bulfinch & Abbott, the Boston architects who introduced organic architecture to the Harvard Yard with the Lamont Library, have planned three new dormitories, each with its own dining room but all served from a central kitchen. Two of the dormitories, the kitchen and three dining rooms are now under construction, to be ready for occupancy this fall; construction of the third dormitory will be postponed — again from economic necessity — for several years.

The dormitories will be of red brick, with the first floor of glass and fieldstone. There will be living quarters for 137 girls in each dormitory, arranged in an equal number of double and single rooms. Each floor will have 11 double and 11 single rooms, a central lobby or living room off the elevator and stairs with kitchenette and ironing boards.

Seminar rooms in the group will provide quarters for small classes obviating the cost of opening and lighting regular classroom buildings for evening seminars.

On the lower floor are the dining rooms between the dormitories, and in each dormitory building a large living room with fireplace and beyond that a "quiet room" with a fireplace and books which can be used as a library or study room.

The separate dining rooms, planned with their central kitchen to preserve the sense of each dormitory as a house unit while gaining economy in food preparation, can on occasion be combined into one great hall.



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NEWS FROM CANADA *by John Caulfield Smith*

Vancouver Assembly Elects R. S. Morris R.A.I.C. Head

AT THE RECENT ASSEMBLY in Vancouver of the Royal Architectural Institute of Canada, R. Schofield Morris of Toronto was elected president of the organization, succeeding John Roxburgh Smith of Montreal.

Other new officers are: Louis N. Audet, Sherbrooke, Que. — first vice-president; Peter M. Thornton, Vancouver — second vice-president; D. E. Kertland, Toronto — honorary secretary; A. J. C. Paine, Montreal — honorary treasurer.

Highlight of the meeting was the announcement of an architectural competition for the new National Gallery of Canada, to be erected in Ottawa. This is expected to be one of the most important events of its kind ever held in Canada.

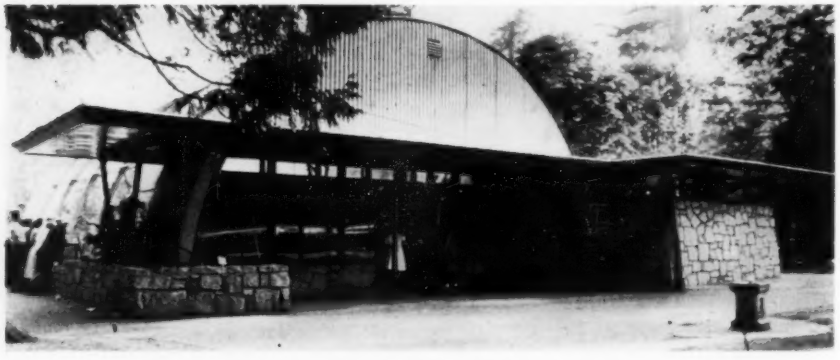
Cite Housing Inadequacies

Several important resolutions were passed by the assembly, including the following:

1. That the R.A.I.C. continue any practical steps which will lead to the retention in Canada of young university graduates, in order that their services may be available for the continual development of the nation.

2. That in the opinion of the assembly the continued inadequacy of the housing program constitutes a major threat to the healthy development of the Cana-

(Continued on page 32)



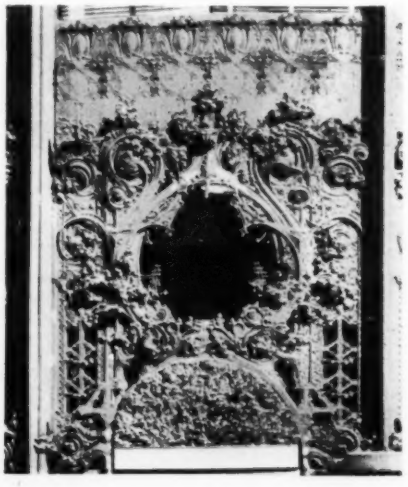
Monkey house in Stanley Park, Vancouver, B. C., includes an enclosed cage and hospital facilities in front (above), open cage and island surrounded by moat in rear (below). Architect is Percy C. Underwood, Vancouver

GEORGE ELMSLIE, F.A.I.A.: ASSOCIATE OF SULLIVAN

WITH THE DEATH of George Elmslie on April 21, there was removed one of the last major figures of the "Chicago School" which included Louis Sullivan, Frank Lloyd Wright and the first John Wellborn Root.

Mr. Elmslie was the long-time close associate of Sullivan, first in the firm of Adler & Sullivan and later in Sullivan's independent practice.

During these years of association, he was in charge of both the design and execution of Sullivan's ornament. He designed the ornamental ironwork for the Carson-Pirie-Scott store in Chicago (then the Schlesinger & Mayer store) and also had a major share in the design of Sullivan's Owatonna, Minn., Bank.



Delicate ornamental ironwork for Louis Sullivan's Carson-Pirie-Scott store in Chicago was designed and executed by George Elmslie

From 1910 to 1920, Mr. Elmslie was in partnership with William Gray Purcell in the firm of Purcell & Elmslie. Since 1920 he had been practicing alone.

Exhibit Planned

An exhibit on the work of Purcell & Elmslie and their place in the history of the Chicago School is being prepared by the Walker Art Center in Minneapolis.

Mr. Elmslie became Sullivan's literary executor and was the author of numerous papers on architecture. He was himself a Fellow of the American Institute of Architects, and on behalf of Sullivan he accepted the Gold Medal of the American Institute of Architects in 1946.

Roscoe E. Albright, Jackson, Michigan, builder, tells how Insulite Shingle-Backer and Bildrite Sheathing help him build better homes, yet save enough to pay for extra features!

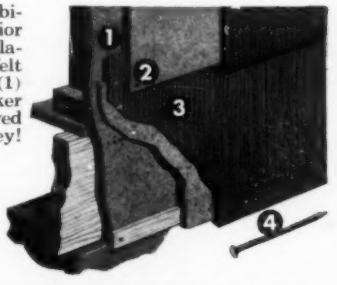
with INSULITE to at no extra cost!"

"I'm able to include such features as automatic dishwashers at no increase in cost with the money I save using Insulite Shingle-Backer and Bildrite Sheathing. My saving on the home pictured here ran to about $180. Here's how it's done."

BILDRITE SHEATHING goes up faster, easier. Cuts application time at least 25%. 4-foot sheets have twice the bracing strength of horizontally-applied wood sheathing thus save corner-bracing. Waterproofed throughout—eliminates need for building paper. No waste.

INSULITE SHINGLE-BACKER speeds completions. Handy 4-foot panel applies far faster and easier than wood under-course shingles. Cuts application time in half. Produces deep, modern shadow-line. Eliminates waste. Waterproofed throughout. In easy-to-handle packages.

DEVELOPED BY INSULITE, this combination makes a strong, tight exterior wall with more than twice the insulation value of wood sheathing, felt and double-course wood shingles: (1) Bildrite Sheathing (2)Shingle-Backer (3) Outer-course Shingles (4) Grooved Nail. A better wall for less money!



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BUILD AND INSULATE WITH DOUBLE-DUTY

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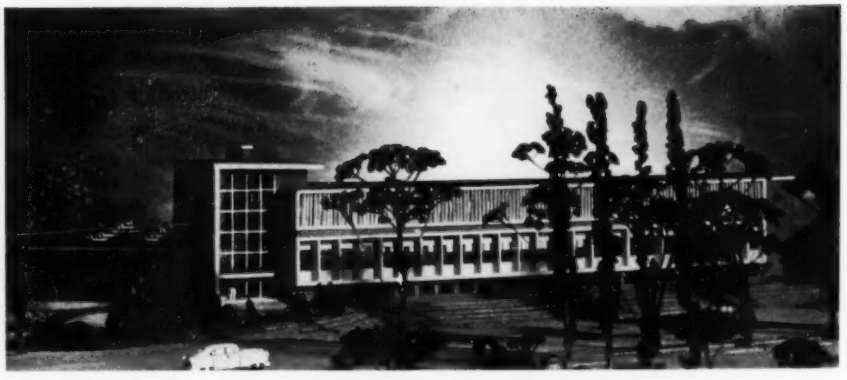
Made of hardy Northern wood

CANADA

(*Continued from page 28*)

dian people and that this resolution will be an instruction to the incoming executive to urge on all authorities concerned the prime necessity for more effective action.



Public utilities building in Scarborough, Ont., has adjacent garage. Architect is J. H. W. Bradfield, Toronto, Ont.

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Automatic sprinklers discover and stop FIRE. For property owners who do not care to use their own capital to pay for them, insurance savings may be used to pay for GLOBE Automatic Sprinklers over a period of years.
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3. That the federal and provincial governments be approached and requested to establish as a principle in the concluding of arrangements with companies for the development of Canada's natural resources that prime consideration be given to provision for employment of Canadian architects and other professional and technically trained personnel in such development projects.

Honor Briton and American

The presence of distinguished visitors lent exceptional color and interest to this year's assembly. Both A. Graham Henderson, president of the Royal Institute of British Architects, and Glenn Stanton, president of the American Institute of Architects, were present to receive Honorary Fellowships.

Other new members of the College of Fellows are: Fred L. Townley and H. H. Simmonds, both of Vancouver; W. Michael Brown, Armdale, N. S.; E. J. Turcotte, Montreal; J. A. G. Easton, Toronto; John M. Kitchen, Ottawa, and Leslie Russell, Winnipeg.

Outgoing Chief's Proposals

Retiring President Smith, reviewing the problems facing Canada's architects, said the federal government should divert surplus treasury funds to housing and slum clearance. He also urged recruitment of an increasingly greater number of candidates for university training in architecture, warning that at the present pace of Canadian growth and of death and retirement of older technicians, a serious shortage of fully trained and competent architects faces the nation.

(*Continued on page 34*)

BLOOMINGTON, MINNESOTA, ELEMENTARY SCHOOL

Another prominent
UNIT VENTILATOR CONTROL
installation by

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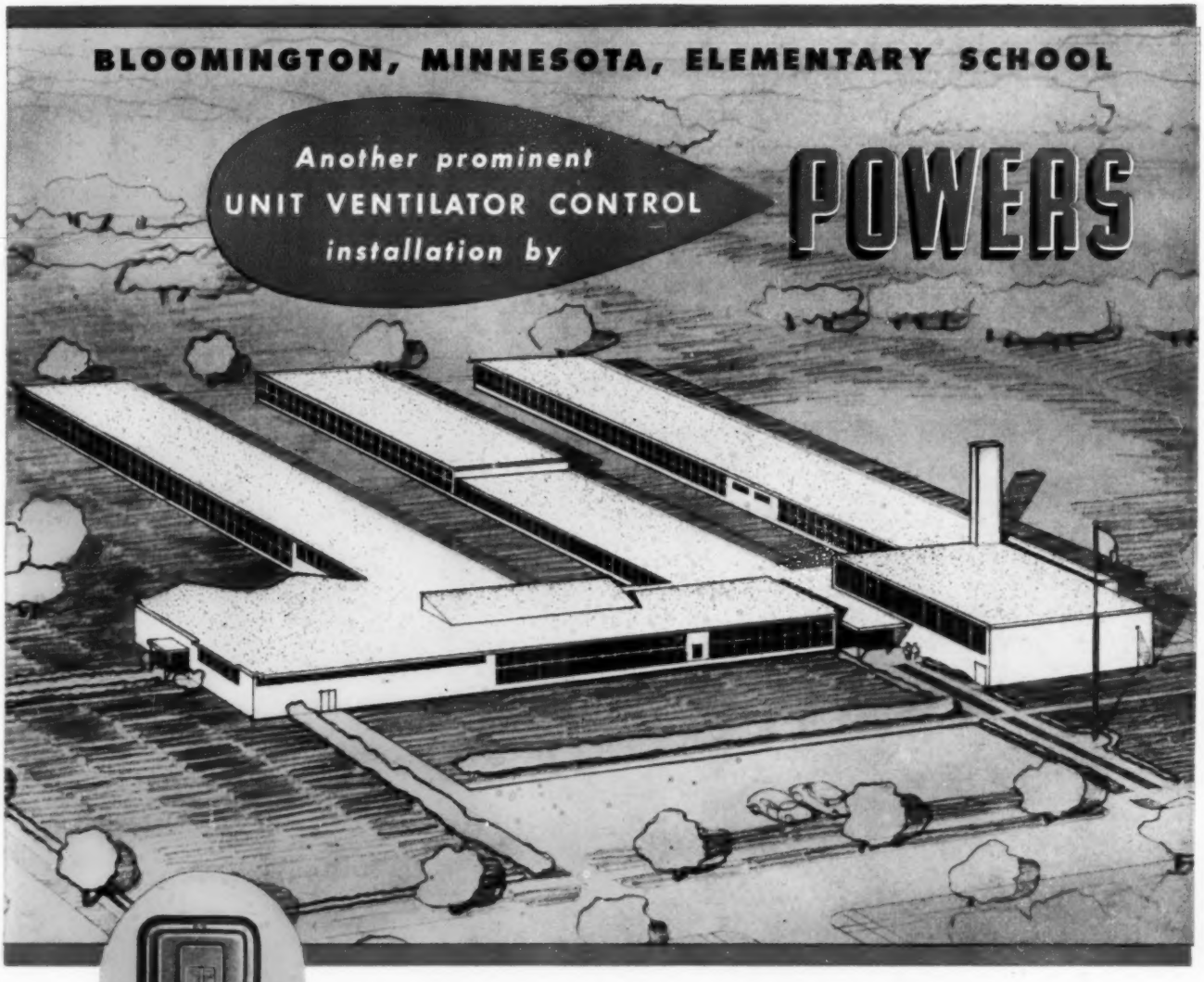

Architect: Eugene D. Corwin ● **Consulting Engineers:** Gausman & Moore
Heating Contractor: E. R. Johnson Plbg. & Heating Co. (all of St. Paul, Minn.)

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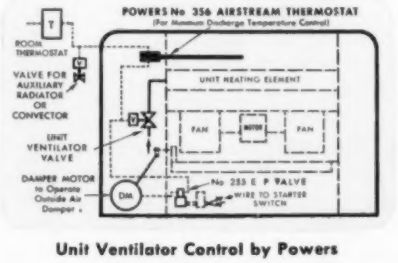
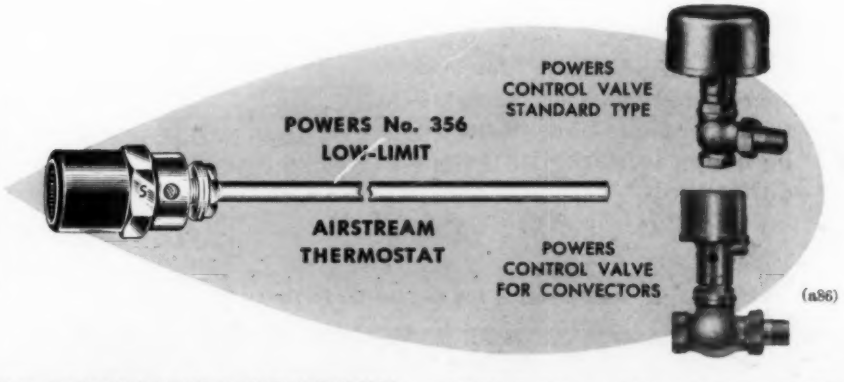


Unit Ventilator Control by Powers



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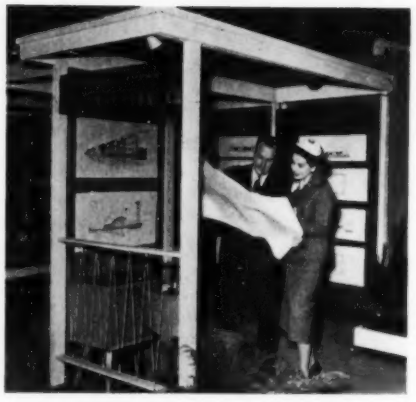
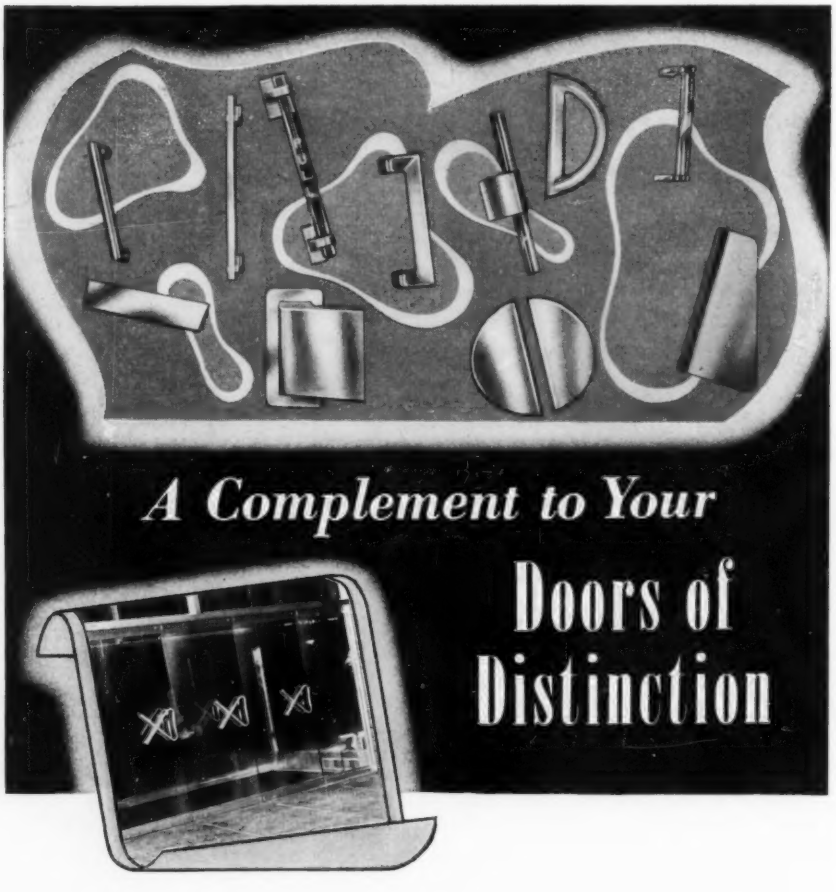
The new president, who will guide R.A.I.C. activities during the coming year, was born in Hamilton, Ontario, 54 years ago. He received his education at Highfield School, Hamilton; Ashbury College, Ottawa; McGill University — from which he received his Bachelor of Architecture degree in 1923; and the Royal Military College. He is a partner in the Toronto firm of Marani & Morris.

CANADA *(Continued from page 32)*



Booth designed by Venchiarutti & Venchiarutti, Toronto, Ont. for Sarachini Construction Co. Ltd., Toronto, was a feature of the recent National Home Show held there. Display included renderings done by the architects for the contractor



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Building Off 13 Per Cent; Biggest Drop in Industrial

Building contracts totaling $525 million for the first four months of this year were 13 per cent below the same period last year, with the industrial category registering the steepest drop.

Canada's manufacturers indicated, in a survey conducted late in 1951, that they planned to put more money into factory construction this year, but so far they have not matched word and deed: for the first four months of 1952, contract awards in the industrial category are off 46 per cent.

Residential and commercial and institutional awards are also down. Engineering is the only category that shows a rise this year: it's up 39 per cent.

Contract award totals, in millions of dollars, for the first four months of each year, are given by MacLean Building Reports Ltd. as follows:

	1952	% Change from 1951
Residential	111	− 10
Commercial & Institutional	124	− 29
Industrial	87	− 46
Engineering	203	+ 39
Total	525	+ 13

Canadian Architects Welcome Head of British Institute

THE FIRST OCCASION on which a president of the Royal Institute of British Architects has visited Canada while in office is now history.

Passing through Ontario on his way to attend the annual Assembly of the R.A.I.C. in Vancouver, A. Graham Henderson, A.R.S.A., president of the R.I.B.A., and C. D. Spragg, its secretary, had a warm welcome from the Ontario Association of Architects. Mem-

(Continued on page 36)

no more washroom wit!

they can't write on MASONITE LEATHERWOOD!

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DIVISION OF GREGORY INDUSTRIES, INC., LORAIN, OHIO

THE RECORD REPORTS

CANADA

(*Continued from page 34*)

bers of both the Ottawa and Toronto Chapters entertained him on behalf of their colleagues.

Impressed by Ottawa Plan

In Ottawa, the British party was taken on a tour of the national capital area by John M. Kitchen, Ottawa architect who is associate consultant of the National Capital Planning Committee. They then viewed the model of the city as it will be someday, spending half an hour studying its many features.

The visitors were entertained at the residence of Mr. and Mrs. Gordon Hughes before a Chapter dinner at the Ottawa Country Club.

Toronto Has Full Program

In Toronto, Mr. and Mrs. Henderson and Mr. Spragg were guests at a luncheon given at the York Club by Mr. and Mrs. R. Schofield Morris. A sightseeing tour of the city and its environs was arranged for the afternoon and later there was a Chapter reception at the Toronto Hunt Club. The same evening, Mr. and Mrs. A. S. Mathers gave a buffet supper at their home, including as guests local members of the College of Fellows, the president of the O.A.A., the chairman of the Toronto Chapter, and their wives. A motor trip to Niagara Falls took place the next day.

Alfred Bernard, left, 21-year-old Toronto carpenter, receives the craftsmanship award of the Ontario Association of Architects from Harland Steele, right, Toronto architect

SQUARE D's NQB LIGHTING PANELBOARDS offer you these important advantages:

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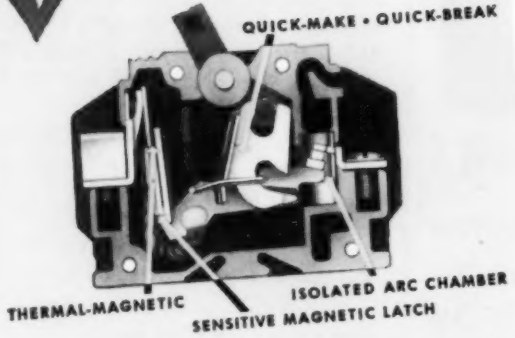

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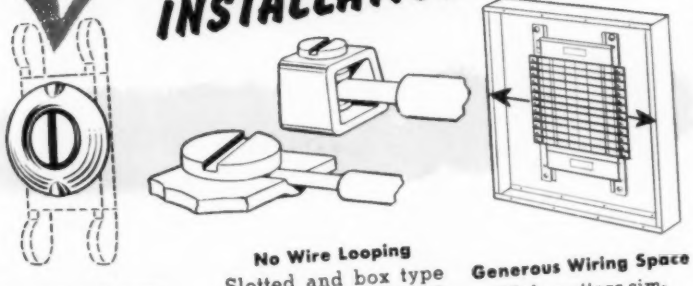

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By Ernest Mickel

AIRPORT DESIGN CHANGES RECOMMENDED FOR SAFETY

President's Commission Gives Specific Suggestions for Future Planning

SOME RATHER SPECIFIC RECOMMENDATIONS for planning of new airports are given in Part I of the final report of the President's Airport Commission, appointed to study the problem of airport safety after the series of tragic accidents at Elizabeth, N. J., earlier this year.

Future airports, says the report, should provide:

1) *Clear, and if possible, level areas at least 1000 ft wide and a half mile long beyond the end of dominant runways;* these areas to be included within the boundaries of the airport.

2) *A "protected" area;* fan-shaped zones extending from the ends of dominant runways for two miles each beyond the runway extensions and spreading to a width of 6000 ft at the outer ends. (It was recognized that cost of acquisition of so much land often is beyond the capacity of a single community.)

3) *Single or parallel runways.* Technical difficulties with cross-wind landings are being overcome through research. While shorter runways oriented at 90 degrees to the dominant runway will be required for some years yet, more emphasis now on the single or parallel strip and on the extension zones beyond the ends of these runways was urged.

4) *Main runways at least 8400 ft long at major terminals* (10,000 ft is regarded as adequate for all types of practicable transport craft now foreseen). Additional length would provide additional safety but should not be required for normal operations.

5) *Runway strengths adequate to the greatest wheel loads anticipated,* to be reinforced or rebuilt if future planes impose greater wheel loads. Long-term standards for runway strength were not considered wise, nor was it thought desirable for airplane designers to be limited in wheel load weight.

6) *Integration of air and ground traffic.* The inadequacy of present road networks in the vicinity of major cities and between city and airport was cited as one of the greatest deterrents to future development of transport aviation.

7) *Adequate acoustical treatment in runup areas and at test stands.*

8) *Separate facilities whenever possible for military and civil aircraft.*

What Now?

The Commission, which included Gen. James Doolittle as chairman, C. H. Horne and J. C. Hunsaker, recognized the impossibility of achieving many of these standards at existing airports or even, very soon, at new facilities. The recommended control of ground use in approach zones as the major immediate expedient for protection of populous areas around existing airports.

Existence of airports in such areas (and the large investments of public and private funds involved) may be seriously threatened by public pressure of ever-increasing numbers of residents unless local authorities prevent further use of land close to airports for public

(*Continued on page 276*)

Mech. Contractors: Shelby Construction Company, Huffman-Wolfe;
Consulting Engineers: Weil and Moses.

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Ductless Marlo Remote Units offer complete, economical summer-winter comfort conditioning.

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SCHOOLDAYS are never over for a good lumberman. Here instructor points out important facts concerning lumber and its handling.

THERE'S A RIGHT and a wrong way to plant trees. This man knows the right way because of training in the proper handling of seedlings.

"PIANO PLAYER" this man is called. He operates a team of high speed saws, individually controlled from the "keyboard."

Good Lumber... *produced by* Trained Personnel

How many feet of clear lumber can be obtained from a 40 foot Douglas Fir log?

The answer to that question depends in part on the skill, the training, the experience of many different men doing many different jobs. Each log must be appraised as an individual problem by men with the know-how needed to get the most out of it, with the least waste and in the least amount of time.

In a Weyerhaeuser mill, for example, a single man, the head sawyer, makes thousands of decisions in a single day . . . determining where and how to cut to secure the greatest yield of good lumber from every log. This is just one example of why Weyerhaeuser places such emphasis on getting the best men in the industry for each of the many dozens of highly technical operations necessary to the job of producing high quality Weyerhaeuser 4-Square Lumber.

In addition to the selection of top personnel, Weyerhaeuser conducts a broad program of training designed to sharpen the skills and aptitudes of its men to the utmost.

Add together all the men who contribute to the quality of the finished product . . . the fellers, scalers, hookers, loaders, buckers, crane and bulldozer operators, linemen and section hands . . . everyone from brush monkey to mill mechanic . . . and you will get some idea of the army of technicians needed to make that famous brand, "Weyerhaeuser 4-Square" mean greater lumber value to you.

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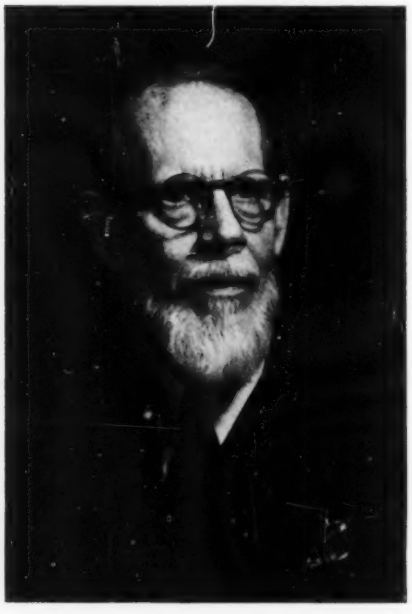
REQUIRED READING

THE THEORY OF ARCHITECTURE



Talbot Hamlin's Theory: "The United States is at a cultural turning point. Are we going to develop . . . humanity or inhumanity" in our communities

Forms and Functions of 20th Century Architecture. Edited by Talbot Hamlin. Columbia University Press (Columbia University, New York 27, N. Y.), 1952. 4 Vols., 3100 pp., illus. $80.00.

This impressive work by Professor Hamlin has the singular distinction of being the first comprehensive book on the theory and methods of architectural planning and design since the advent of the contemporary movement. It was specifically intended to succeed the completely outdated work of Julien Guadet — "Elements and Theory of Architecture" — published at the turn of the century. Professor Hamlin, who devoted five years to the preparation of the book while on leave of absence from his post as Avery Architectural Librarian at Columbia University, and the University's School of Architecture which sponsored the project are certainly due a vote of thanks for their initiative and effort in seeking to provide a greatly needed definitive work for our era.

The book is divided into three main sections. Volume I, "The Elements of Building," treats separately room types and uses, circulation, mechanical equipment, the various structural elements as they affect design, landscaping, interior design and ornament. The second volume, "The Principles of Composition," takes up the question of architectural esthetics under such headings as unity, balance, character and structural methods. These first two volumes were written in the main by Professor Hamlin. Volumes III and IV, "Building Types," contain 51 separate articles written by well-known architects, planners and writers, and edited by Hamlin.

It is perhaps inevitable that a work of such size and scope should become the object of a great amount of spirited criticism and praise. The title itself may have misled many who have expected — or hoped — to find an *avant garde* guidebook to contemporary design. A quick leafing through the book, especially of the first two volumes, has proved disconcerting to many because of the preponderance of historical illustrations. Hamlin, who is basically a historian, has apparently sought to correlate contemporary design with the historical evolution of styles, and has used a traditional approach in the presentation of his material. Within such a framework it is inevitable that some of the elements of building and composition are best illustrated with historical details. However, 20th century work is more than amply illustrated among the 3700 or so photographs.

While the book generally forwards the functionalist concept of design and planning, a strong plea for more humanistic values is made in many ways throughout the text. In the section under Character, Hamlin says, "The pleasure one gets from perceiving character in a building is not merely a cold realization of the mechanical fitness of its forms to the purpose they serve; it is a definitely emotional reaction as well. The good building puts one in the right emotional state; it prepares one for the activities that go on in it."

The articles on building types in the last two volumes of the work are a bit more exuberant and stimulating than Professor Hamlin's methodical and scholarly approach, and cover most of the current planning requirements.

(Reviews continued on page 48)

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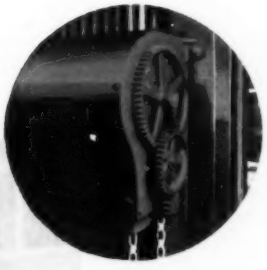
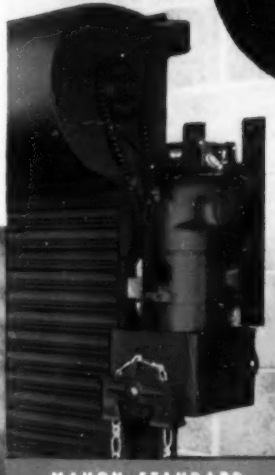


MAHON CHAIN-GEAR OPERATOR



MAHON STANDARD POWER OPERATOR 920-P

Here again is illustrated a building in which only Rolling Steel Doors could meet the operating requirements. It is a foundry building with high clearance below trusses and continuous sash above door lintels to provide good natural light. Rolling Steel Doors were chosen because their vertical roll-up action occupies no usable space inside or outside the door opening, and does not create an obstruction above the lintel level. No other type of door offers these inherent advantages of space economy and compactness in operation. There are other advantages too . . . Rolling Steel Doors are permanent—their all-metal construction provides maximum security against intrusion and fire, and assures you a lifetime of continuous trouble-free service. Like most other things, there is a vast difference in the quality of the various rolling steel doors on the market today—a careful check of specifications will reveal this. For instance, the galvanized steel material for the interlocking slats of Mahon Rolling Steel Doors is chemically cleaned, phosphated and chromated to provide paint bond, and the protective enamel coating is baked on at 350° F. prior to roll-forming. This is just one of the extra-value features of Mahon Rolling Steel Doors—you will find others. See Sweet's Files for complete information including Specifications, or write for Catalog No. G-52.

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MAHON

Apartment on columns

Architectural concrete slabs cover interior and exterior columns, unifying design

For see-through spaciousness integrating lobby and gardens into visual unity, the new Manhattan House in New York rests upon 74 handsome columns. Beautiful column facings are pre-cast concrete slabs made with Atlas White Cement and white quartz aggregate . . . gracefully accenting the open areas in the building base.

Two flat U-shaped slabs, 11′ high and 2½″ thick, are joined to form each column. Shop-fitted with shiplap joints, each pair encloses a support column and conduits. Design of the entire ground floor is integrated because concrete slabs are used indoors as well as out.

Architects: Skidmore, Owings, & Merrill and Mayer & Whittlesey.
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MoSai Precast Facing Slabs: Dextone Co., New Haven, Conn.

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REQUIRED READING

(Reviews continued from page 46)

SOIL MECHANICS AND FOUNDATIONS

Introductory Soil Mechanics and Foundations. By George B. Sowers and George F. Sowers. The Macmillan Company (60 Fifth Ave., New York, N. Y.), 1951. 6 by 9½ in. 284 pp., illus.

Not until the early 1900's was much known about the complex nature of soils and their relation to building problems. The tremendous increase in the size of buildings at this time stimulated research in the new phase of civil engineering called soil mechanics, and since 1930 soil mechanics has become an indispensable tool to architects and engineers.

The authors feel that it is extremely important for architects and engineers to have sufficient knowledge of soil mechanics to apply its principles to routine problems and to make intelligent appraisals of recommendations of specialists. Thus it is written both as an undergraduate text and as a reference book. They point out that there is a need for careful, scientific soils engineering on even small construction jobs, and so the book explains how the theories are applicable to the situations frequently encountered in practice.

MODERN FURNISHINGS

Modern Furnishings for the Home. By William J. Hennessey. Reinhold Publishing Corp. (330 W. 42nd St., New York 18, N. Y.), 1952. 8½ by 10½ in. 296 pp., illus. $10.00.

Mr. Hennessey has compiled in this attractive book a comprehensive showing of what is available in today's field of better contemporary furniture. Actually the book is a catalog, containing over 450 illustrations of work turned out by well known American and European designers, giving a description of each piece with the catalog number, size, material, finish, and designer's and manufacturer's name. An extensive foreword traces the history of modern furniture design and explains the thinking behind contemporary furnishings, taking the reader back to the turn of the 19th Century, L'Art Nouveau, the work of Gropius, Sullivan, Wright, etc.

Equally instructive to consumer and student, the book strives to better acquaint the reader with the outstanding designers and manufacturers of today. Acting upon the theory that the "Steering of a client around the wholesale-retail circuit is a grueling procedure," the catalog has been assembled to assist

(Continued on page 326)

UNITED NATIONS HEADQUARTERS

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MAX ABRAMOVITZ, *Deputy Director of Planning*
MICHAEL M. HARRIS, *Assistant Director of Planning*
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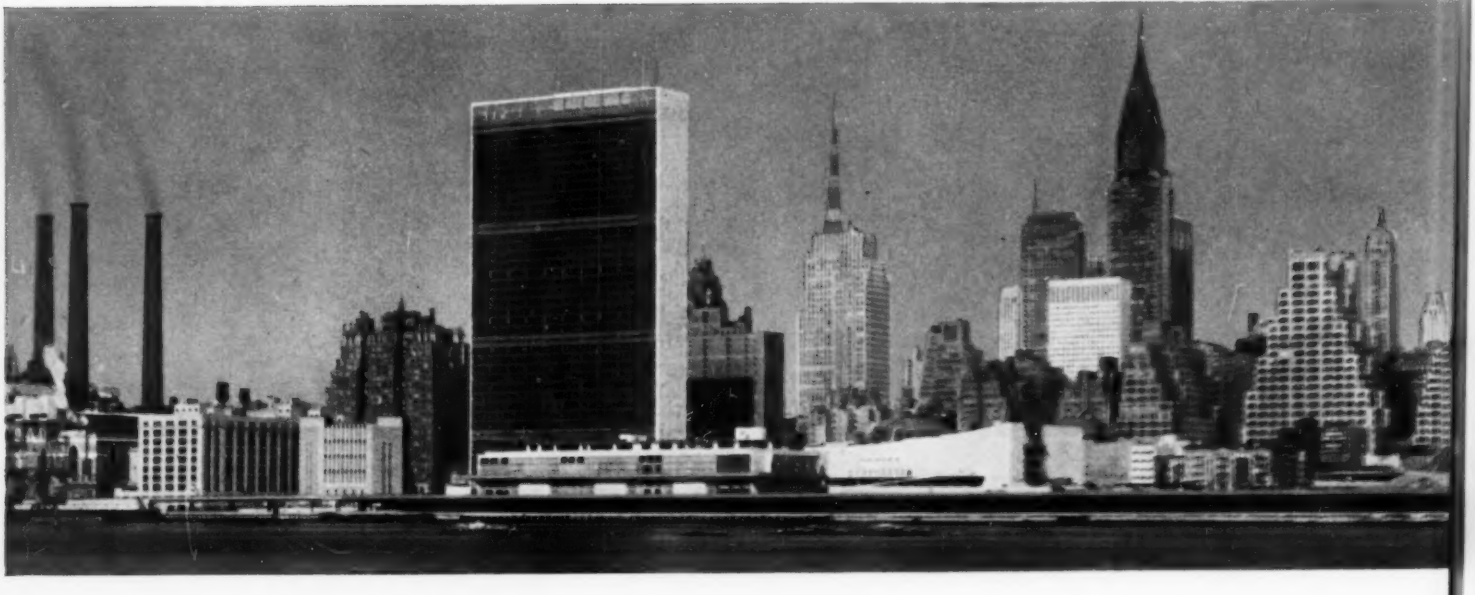
UNITED NATIONS



A DESCRIPTION AND APPRAISAL

by HENRY STERN CHURCHILL, F.A.I.A.

THE buildings for the United Nations constitute what is probably the most important architectural work of the century. They constitute a World Capitol, and as such draw the eyes of the world as a symbol of hope for world peace and the visible expression of world government. Therefore these structures deserve careful critical comment as to both function and purpose.

The site for the United Nations buildings is seventeen and a half acres, bounded by the East River, Forty-second Street, First Avenue and Forty-eighth Street. The Franklin D. Roosevelt Drive, an expressway, runs along the river edge, and part of the buildings are cantilevered over it. The site forms an enclave in the city, state and nation, with specific rights of extra-territoriality. Nevertheless, by agreement various facilities are furnished by the City of New York, such as the right to build over the Drive, sewer connections, access from city streets and fire protection. Heat, in the form of steam, comes from the New York Steam Company: and electric light and power come from the Consolidated Edison Company, so that there are certain anomalies in the situation. The City has also agreed to make certain physical improvements. The heavy traffic along First Avenue is being carried past the site in a tunnel; the approach from Forty-second Street has been cleared of old encumbrances and widened; Forty-seventh Street has been widened from First to Second Avenue. From the point of view of city planning, this is little enough. No effort has been made to plan for the tremendous effect U.N. is going to have on the entire surrounding area, and an excellent study made by the Committee on Civic Design and Development of the New York Chapter, A.I.A., has been completely ignored. The U.N. group must be considered within this framework, including the unpleasant vistas of Con Edison stacks, the hideous ventilation building for the Queensborough

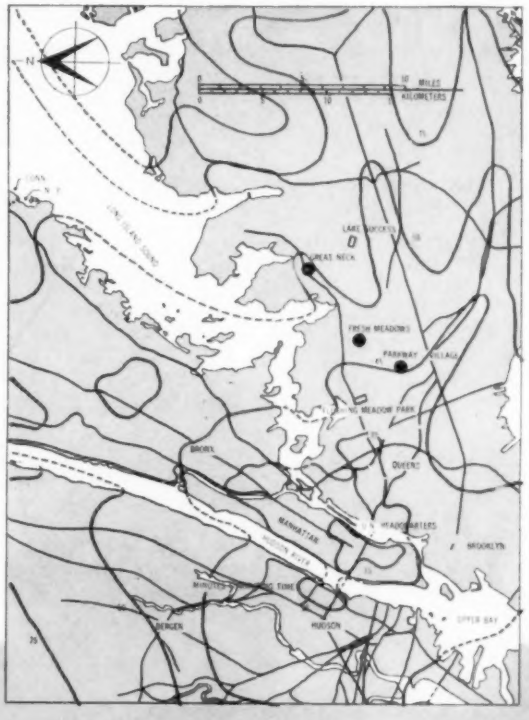
HEADQUARTERS

Joseph W. Molitor

Facing page: U.N. from across the East River. Above: Transparent ground floor, Secretariat, from entrance court

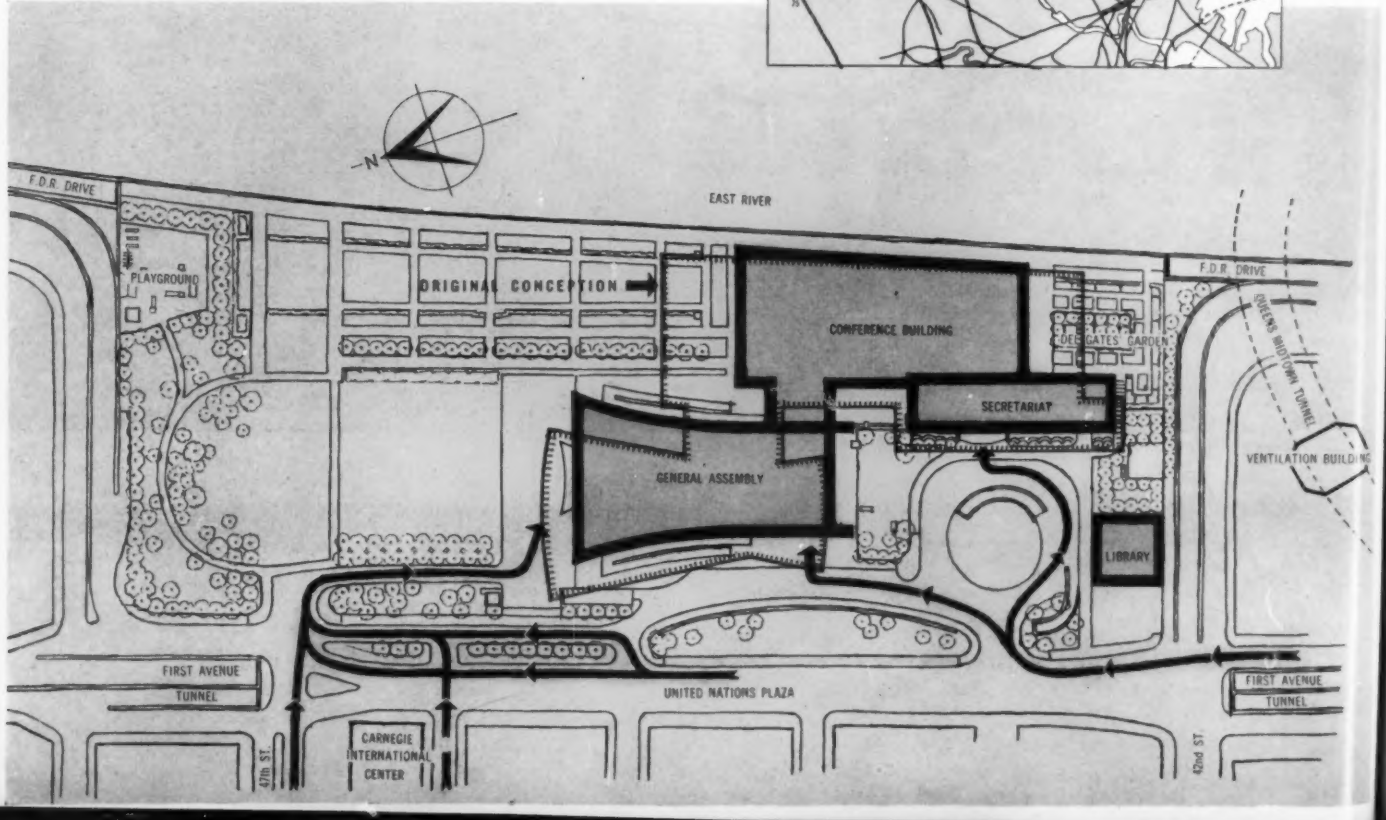
Tunnel, the monstrous rears of Tudor City and the intrusive sky-scraper that prevents any view of the Capitol from the Forty-seventh Street approach until one is almost at First Avenue. A physically less fortunate site would have required effort to find. What might have been possible had large acreage been acquired in Westchester County or in Philadelphia is now beside the point. It is significant that the Rockefeller gift of a cramped urban site was in line with the Delegates' desire to be within easy reach of New York's glamour.

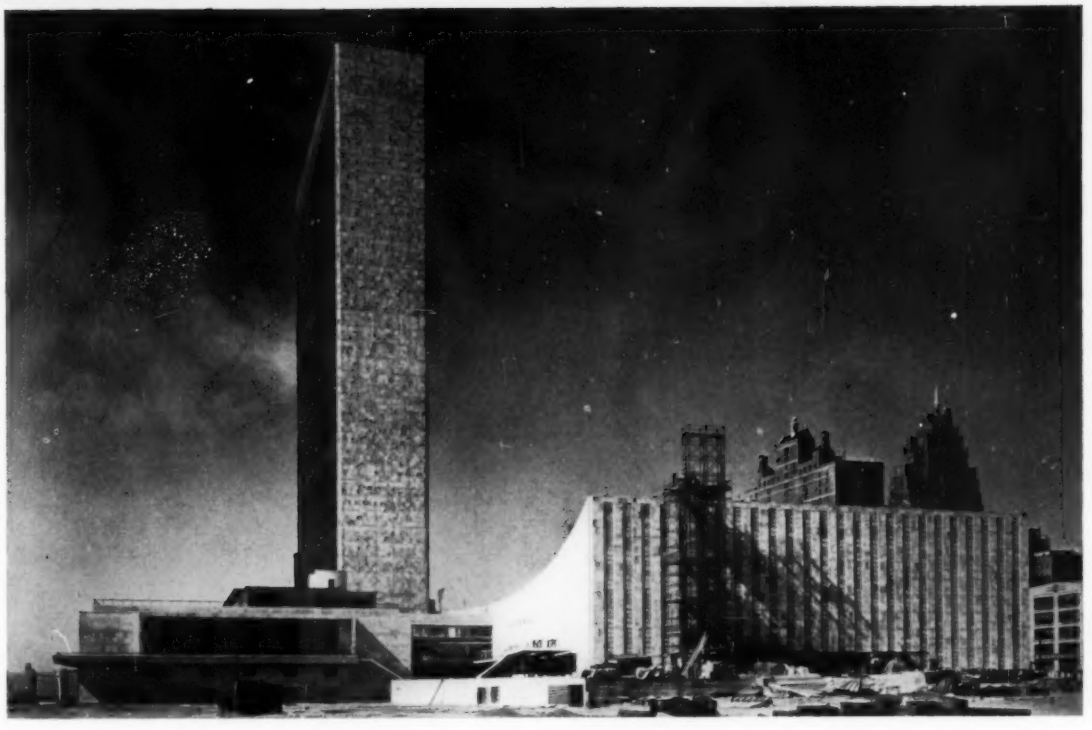
When the site was determined, Wallace Harrison was appointed Director of Planning by the U.N. and provided with funds to set up a Planning Office. This office was first established to service the Board of Design Consultants. For this purpose it consisted of about thirty draftsmen and consulting engineers. Contact between the designers and the drafting room was handled by Michael M. Harris (now Assistant Director of Planning); he continued to shoulder most of the burden of coordination of design and production of working drawings throughout. During the working drawing stage there were about a hundred and fifty men, plus the mechanical engineering men and attachés from the structural engineers. In general the work was divided into four parts, each under a responsible job captain: Secretariat, Meeting Hall Area (now Conference Building), General Assembly, Parking and Site Planning. Job meetings were held weekly. Harris attended these and all the other meetings — meetings with the City, the Park Department, the U.N. Advisory Board. There was also a special Board on Code Requirements, because since the City was furnishing fire protection, it was thought advisable to comply, in the main, with the City Code. Policy and general development of design were controlled by Wallace Harrison and Max Abramo-



MAP: COMMUTING DISTANCES

SITE PLAN





Joseph W. Molitor

vitz. Within the framework as determined by the Board of Design there were endless changes of detail, endless decisions to be made and coordinated and checked. It was an exceedingly involved and complicated technical and design undertaking. Engineers and contractors working closely with the architectural staff made the organization closely knit and contributed to the smoothness of operation. James A. Dawson, Coordinator of Construction for the Planning Office, has headed a staff of 30 or 40 supervisors, estimators, etc.

One of the immediate problems, to be attacked even before the meeting of the Board of Design Consultants, was the organization of the program. How many employees? How many conference rooms, meeting rooms? What were the special needs of the eight major departments of U.N.? What would be the relation of delegates to staff, how would the press be accommodated, what areas should the public be admitted to? What special problems were raised by the international character of the staff? What services would be required in the way of reproduction of the spoken word, of written material; how big and what kind of a library; what types of inter-com systems? How much parking?

Research into these and a host of related questions was undertaken by Harmon Goldstone of Harrison's office. He prepared a series of reports which, together with engineers' reports on foundations and all other basic technical data, served as a working program. Care was taken not to have any drawings or sketches made prior to the meeting of the designers.

The organization of the United Nations may be summarized thus:

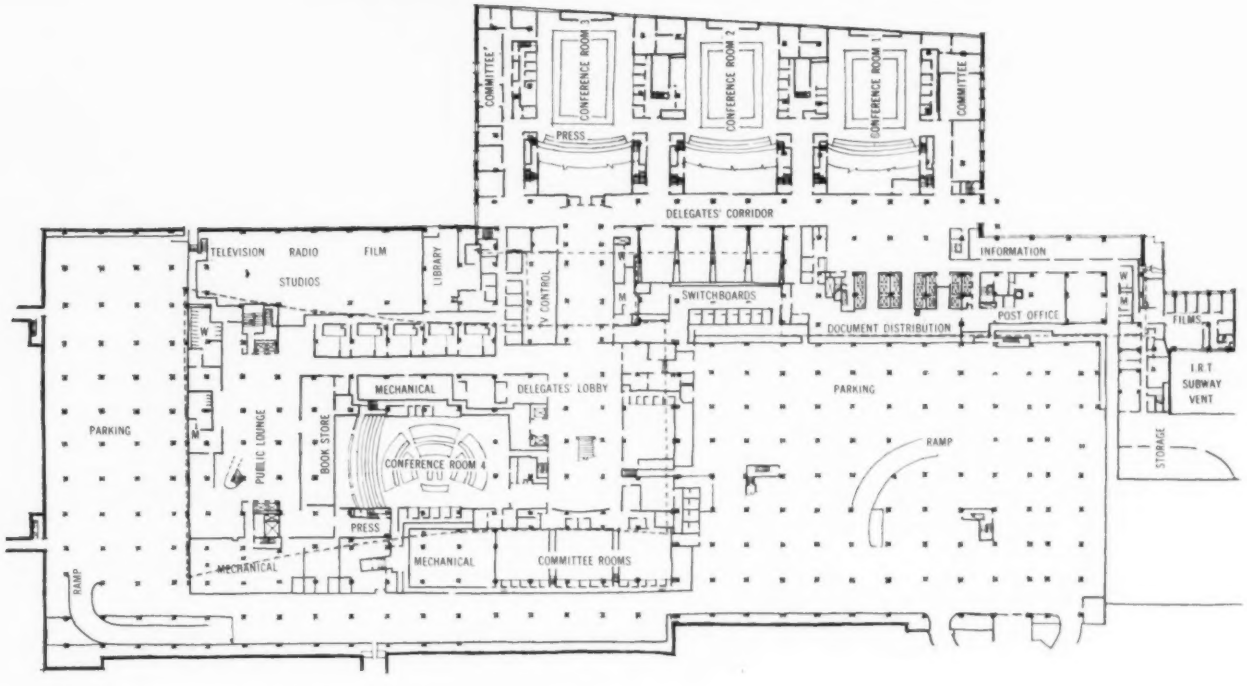
The General Assembly, which is the supreme governing body, and consists of Delegates from all the member states. It meets for two or three months in the year.

The Security Council, the *Trusteeship Council* and the *Economic and Social Council*, to which are delegated authority in their respective spheres. The Security

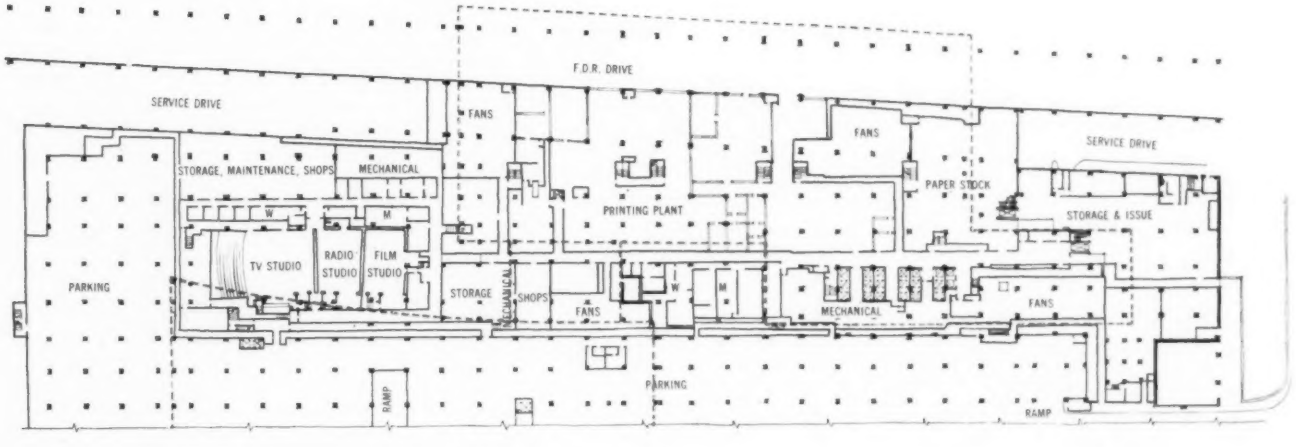
Above: View from north; upon completion this will be the public entrance façade. Below: Conference Building cantilevered over Franklin D. Roosevelt Drive

UNITED NATIONS

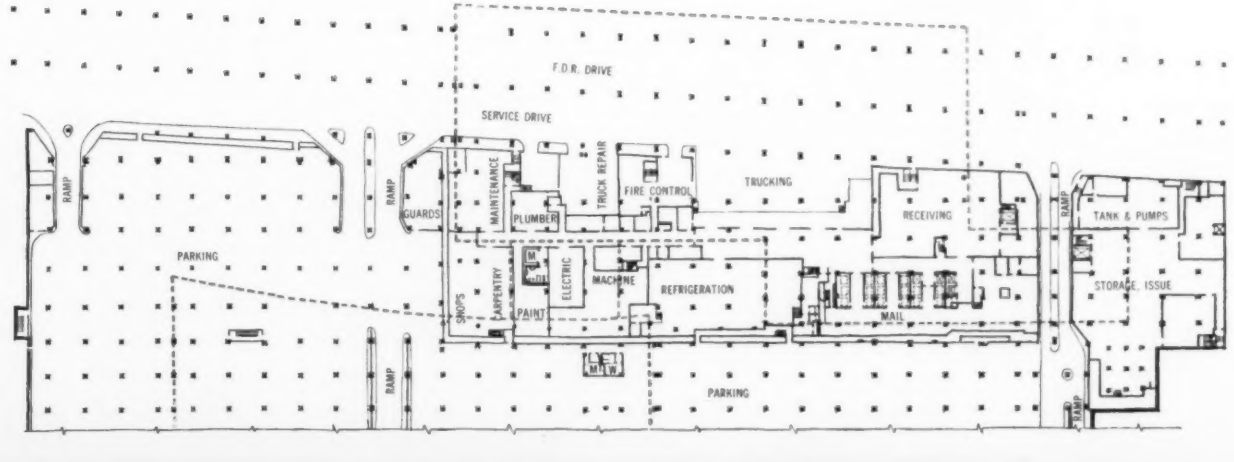
FIRST BASEMENT

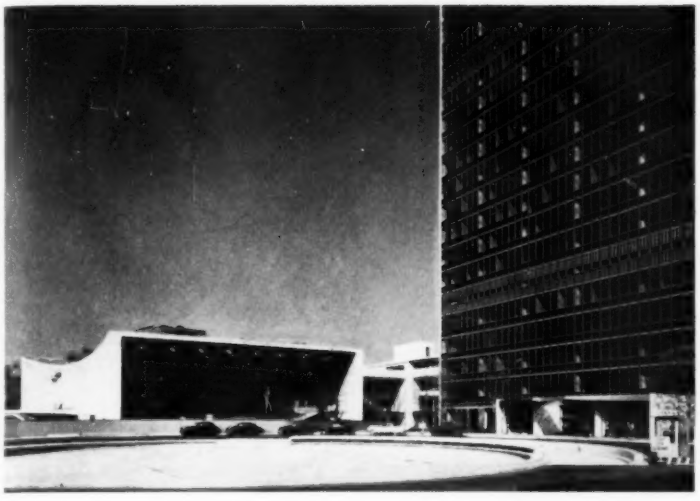


SECOND BASEMENT



THIRD BASEMENT





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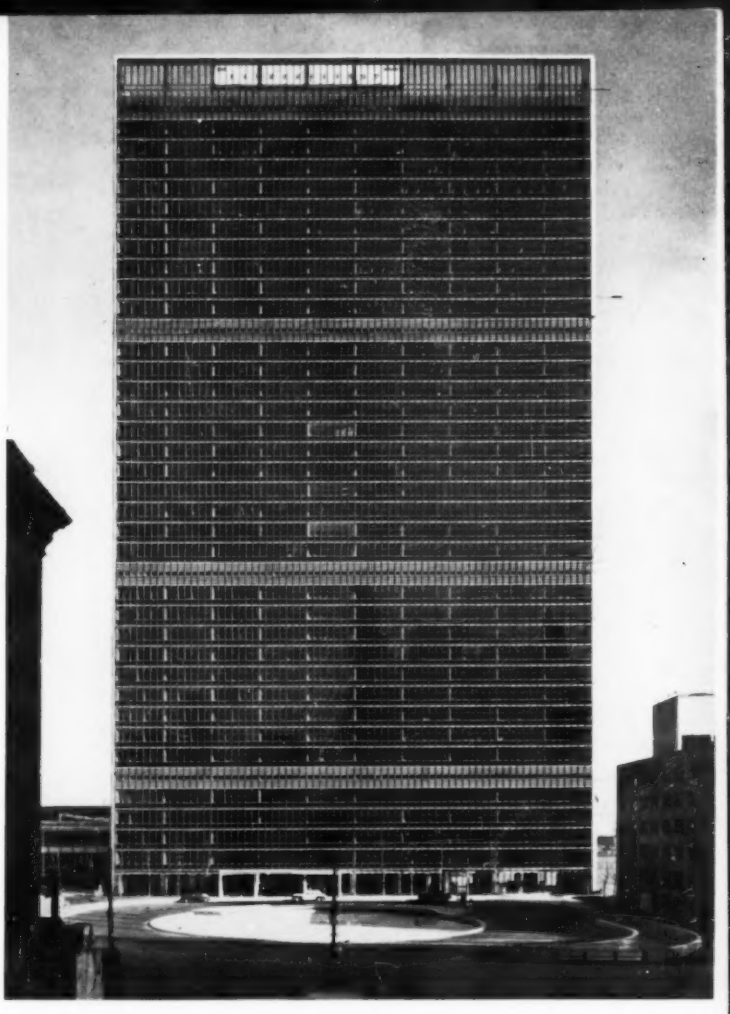


Above: Secretariat entrance court; upon completion, to be used only by U.N. personnel. Right: Secretariat façade

Council is in permanent session; the other two meet three or four times a year.

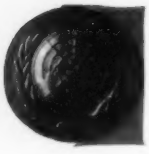
The Court of International Justice. This sits at The Hague, and is not part of the New York City group.

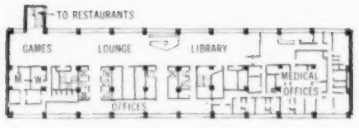
The Secretariat, which is an internationally recruited Civil Service, has the job of keeping the United Nations organization running. It is headed by the Secretary General, and is divided into eight departments. The Departments of Security Council Affairs, Economic Affairs, Social Affairs and Trusteeship Affairs deal with the work of the three Councils. The Legal Department handles problems of international law; the Administrative and Financial Department handles budget, personnel and organizational matters. The Department of Conference and General Services handles all the enormous amount of paper work for the United Nations (it takes 400 man-hours to get a one-hour speech by a delegate into the record — including translation into five languages, editing for the Journal and printing in the Official Record); it runs a full-scale printing plant, and documents are distributed by dumbwaiters, conveyors and pneumatic tubes. This Department also handles security, plant operation, transportation, mail and messenger service. The eighth Department is Public Relations. In addition there are two other groups closely tied in with the U.N., the *Specialized Agencies* and the *non-governmental international organizations.* While not part of U.N., they had to be considered in the basic program.

Goldstone's program fluctuated widely for quite a while, because there was no way of calculating precisely the future personnel needs. Preliminary designs were based on 2300, which rose shortly to 5265, and finally settled down to about 4000 ultimate, with an immediate layout for 3200 (exclusive, of course, of "service personnel" — elevator operators, cleaners, etc.).

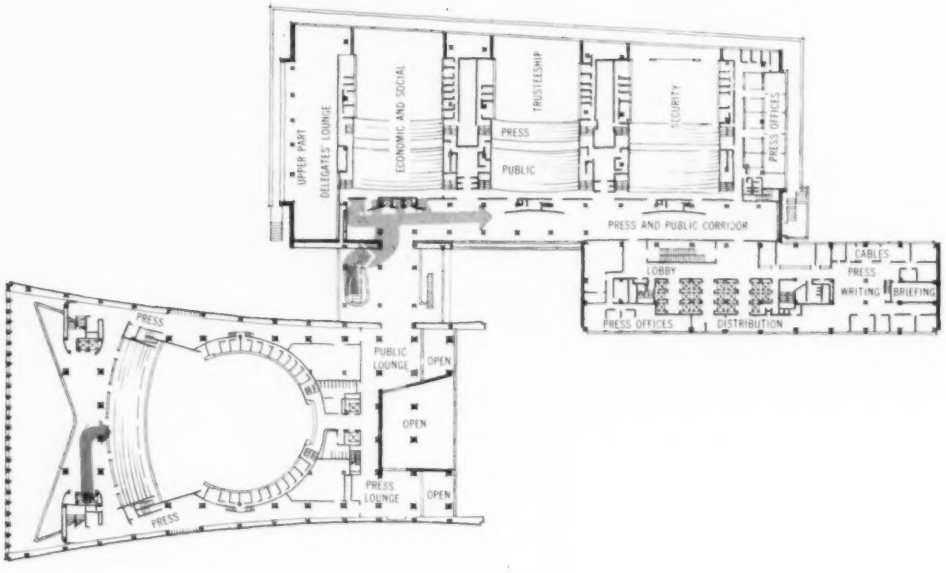
Early in 1947 the Director of Planning, his Deputy Director, Max Abramovitz, and the Ten International Design Consultants began work on the design. Fifty-three basic schemes, many with three or four variations, were made and discussed, with the Director acting as umpire, moderator, and soother of ruffled feelings. By May of 1947 a final parti was unanimously agreed upon — the first unanimous presentation ever made to the General Assembly by a U.N. committee.

Five essential decisions were made. **1)** the Secretariat, which has the greatest daily flow of population, should be at the south end of the site because of its convenience to 42nd Street and cross-town transportation; **2)** the Secretariat was to be a high-rise structure because experience at Lake Success showed that intercommunication, of which there is a great deal, was far easier and less time-consuming vertically than horizontally; **3)** that given a high-rise building on the south, an east-west orientation would throw less shadow over the site than north-south, even though there was a considerably greater cost entailed for heating and air conditioning; **4)** the location of the Council Rooms to

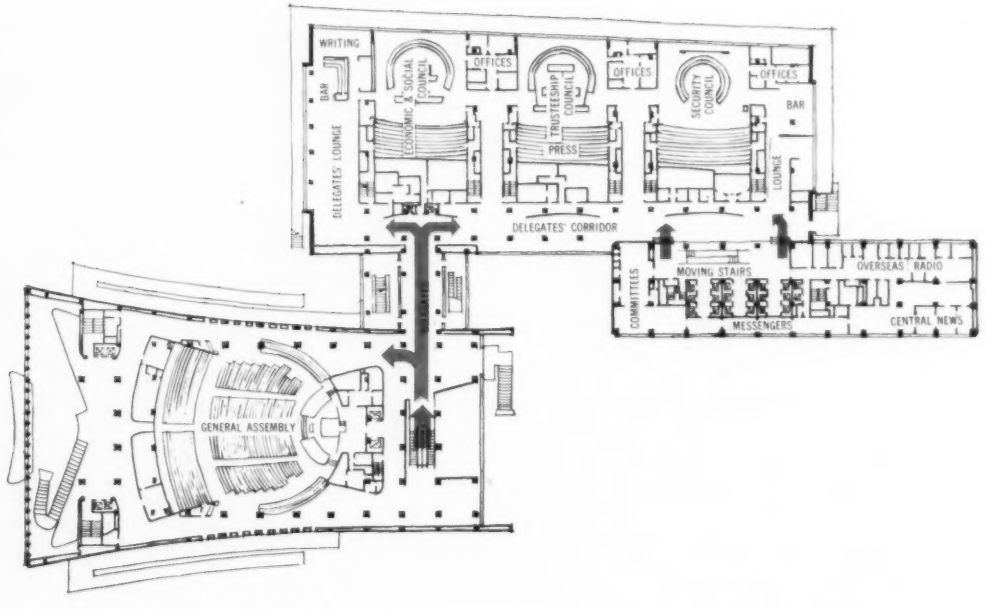




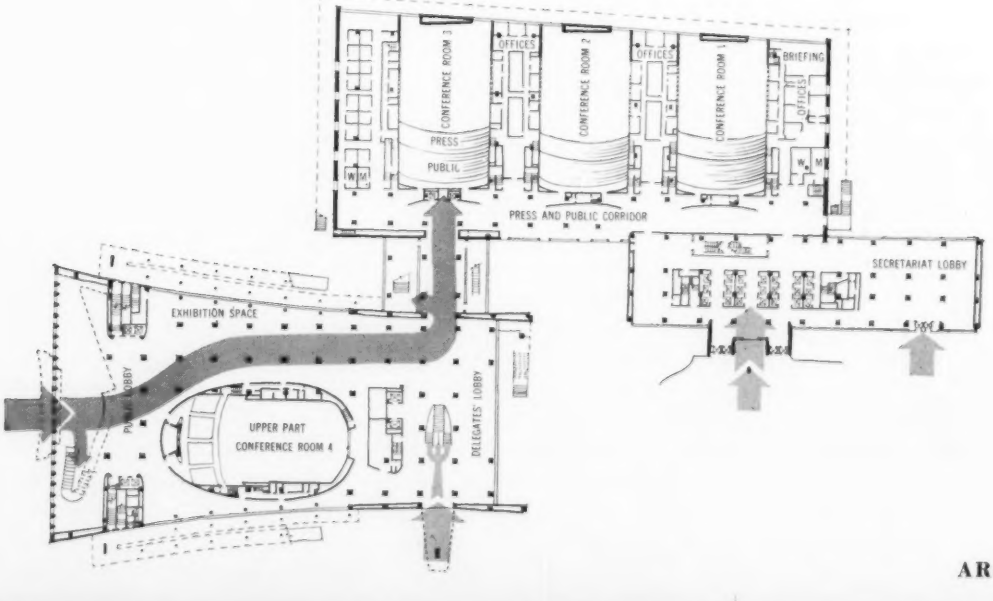
SECRETARIAT FLOOR



PRESS AND PUBLIC LEVEL

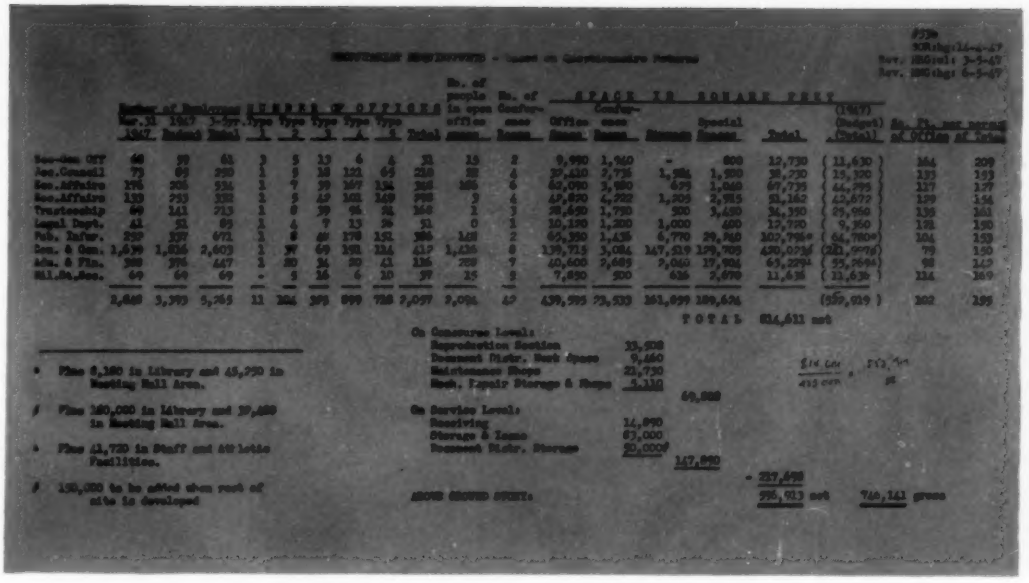


DELEGATES' LEVEL



ENTRANCE LEVEL

Facsimile of one of the many pages of the program of May 1947. One of several programs prepared before the Board of Design started work, this contained explanations and area tabulations under the following headings: Preliminary Summary of Considerations Affecting Planning; Meeting Hall (now Conference Building) Areas; Booths (for translators, broadcasters, etc.); Secretariat; Military Staff; Specialized Agencies; Delegations; Staff; Eating; Circulation, Traffic and Parking; Documents and Sales



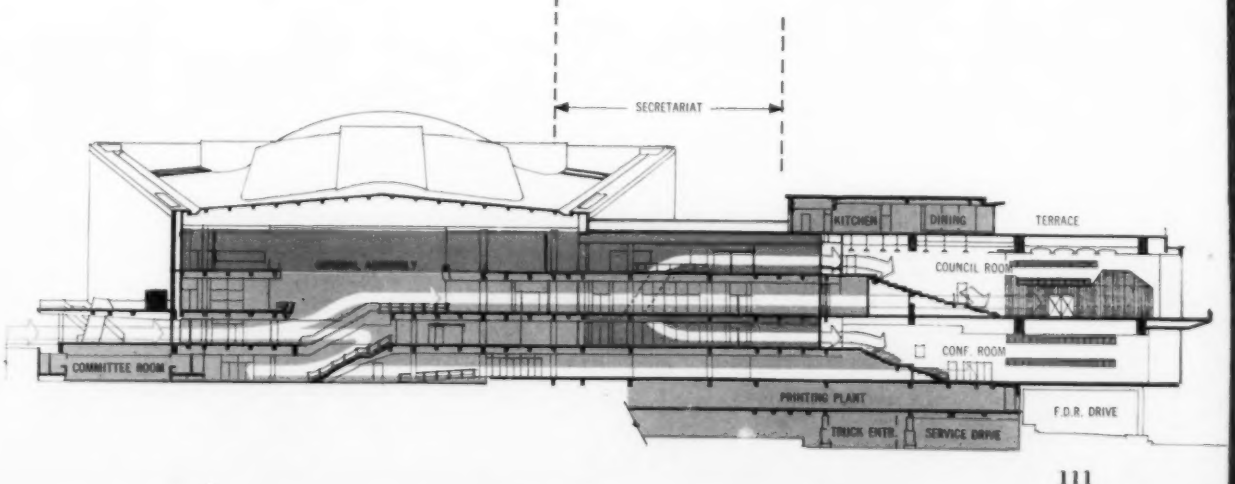
the east was determined as a logical relation to the General Assembly which was given the place of honor at the center of the site along First Avenue; **5)** agreements were reached with the City to cantilever over Roosevelt Drive, to build a tunnel past the site for First Avenue traffic, to widen 47th Street, and to construct minor parks adjacent to the site.

The first plans also contemplated an additional structure for Specialized Agencies and Delegations Offices at the north end of the site. This was abandoned for lack of funds. Since then the Carnegie Endowment for International Peace has acquired a site at the corner of Forty-sixth Street and First Avenue and is erecting a building there which will house many of the non-governmental agencies.

The original scheme was to have cost about $85,000,000, as a loan without interest from the United States, repayable over 32 years. This was cut to $65,000,000 by the U.N. itself, to scale down its request for presentation to a Congress dubious of the whole idea.* The cut necessitated a general scaling down of areas and cubage. This was done without altering the original approved design. In fact the main elements of plan, section and general conception, as approved by the Design Consultants and the U.N., have not been changed in any essential respect whatever.

Let us consider each of the group components in some detail, starting with the Secretariat. This building is 544 ft high, 287 ft long, 72 ft wide and has 39 floors and 3 basements. Visually it completely dominates the group; when one thinks of U.N. one thinks only of the vast green-glass, marble-end slab, although in plan it forms only a small part of the total building area. This visual dominance is probably as it should be, for in governmental organizations today the clerical worker with his paper-shuffling and the permanent heads of departments, divisions, bureaus, sections are the people who get the work done, subtly influence policy, and see that the wheels go 'round. Without the typists, the file-clerks, the men and women in the little cubicles, not only U.N. but all our businesses would collapse. The office building has consequently become the char-

* Recently the U. N. has appropriated an additional $3,000,000. which was needed for completion of the work.



ALL STOPS FROM
15TH TO 27TH FLOOR

Photos courtesy U.N.

Joseph W. Molitor

The Secretariat: facing page, elevator lobby; upper left, office floor corridor; lower left, unfinished office floor; above, interior and outside offices

acteristic form of American architecture, and it is in the technique of office buildings that our greatest advances have been made. It is somehow fitting that the Secretariat should become the symbol of the U.N. — an up-ended filing case for human beings, their hopes, their fears and their aspirations for a steady job. That is the new American Dream, a steady job, that is what we hope a United World will bring us, in the terms of peace and security; and of that the Secretariat is a just, if unconscious, expression.

Unconscious expression because actually the Secretariat is more than an American office building. It houses people from many nations with greatly differing cultural backgrounds. This raised a lot of technical problems, from how to provide temperatures and working conditions for a variety of physiological natures to psychological problems of adjustment to mechanical devices and personal habits, to questions of elevator controls and signs. Since there are practical limits to providing for national whims, the answer was to make the process of adjustment to our way as painless as possible. The result is, of course, a forceful expression of Our Way, not theirs.

Seen from a distance the Secretariat is very handsome indeed. It has, on the whole, remarkable clarity, and a quality of brightness. The utility floors are differentiated from the others by a kind of tracery, repeated at the top in the form of a high grille intended to hide the pent-house. The location of these bands could have been more carefully studied. They have no rhythmic relation to the whole surface and so they are disturbing, whereas careful placement might have enhanced the scale and dynamic effect of the façade. The top grille is also most unfortunate. It does not hide the pent-house, which is actually a very simple shape and could very well have been left visible. The grille, against the sky, seems frivolous, a little rococo, like the lace on men's eighteenth century sleeves.

As a mechanism the Secretariat works exceedingly well. The impression on entering is one of great openness and space; there is easy access to elevators and to the big lobby with the floor-to-ceiling windows which give it

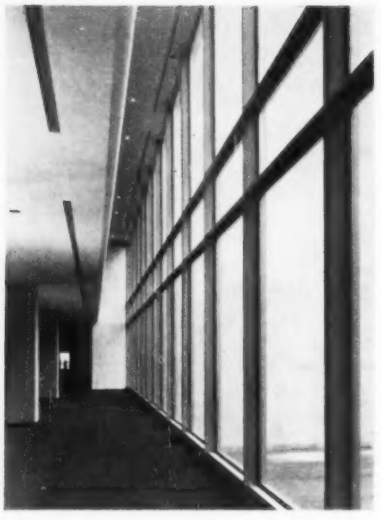
its spaciousness and extension to the outer world. It is with details that most fault can be found: the entrance canopy which, though intended to be only part of a flamboyant two-story entrance motif, is in its present state only reminiscent of hotels and broadcasting stations; the restlessness of the ceiling; the poor handling, both inside and outside, of the narrow end-returns of the marble slab-ends where they come down through the first floor.

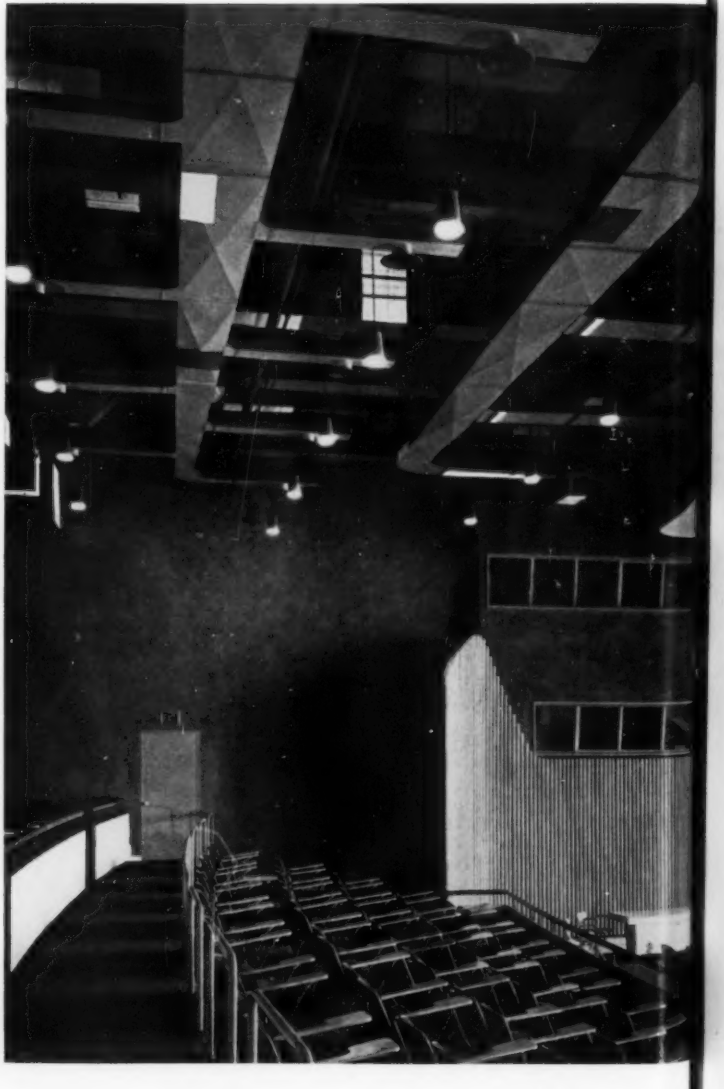
The office floors are efficient and simple. The big windows are pleasant, but raise a question of technology. The windows on the utility floors, although far smaller, seem to distribute just as much light with less glare: one questions the actual value of the big glass areas, so carefully contrived with venetian blinds to cut the glare and with heat resistant glass to keep out the hot western sun. Incidentally this glass was used on the east side as well, where it was not needed for technical reasons, in order to preserve the visual color balance within the office space. Psychologically this was a wise decision, for the difference in color would have required continual adjustment of the eyes.

There was trouble with the glass wall too, at first, from leakage resulting from the up-draft of air. Leaky walls are common enough on sky-scrapers. As with the leaky roofs attributed to Wright's houses, the prominence of the work has made it a target for snide criticism.

The floors are all laid out for maximum flexibility. The air conditioning is individually controlled for each bay, and all windows are openable. This was a concession to the great variety of desires as to "climate" expected from the differing national backgrounds of the personnel, paying off in better morale, and probably in fewer respiratory troubles. The use of double-hung sash also permits the windows to be cleaned in the ordinary way. (A wall-washing machine, once considered, was abandoned when cost estimates were found prohibitively high.) The electric lighting (fluorescent in sunken troffers) and the ventilation outlets are spaced on a modular system; and in practice it has been found that very little shifting of equipment has been needed in installing the many office partitions.

The main telephone switchboard is housed in the Secretariat; there is also an inter-com system; and, as has been said, a system of dumbwaiters, conveyors and pneumatic tubes for the distribution and routing of office memoranda, mail, and printed matter. This system will also extend to the Library, which is housed in the building originally built for the New York City Housing Authority — an unrelated structure left on the northwest corner of the site. The building was brand new and expensive when U.N. took it over; even remodeling it for library use cost a small fortune. It does





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not help the appearance of the World Capital. There exist preliminary plans for drastically modifying the building, but there are no funds for carrying them out.

The Secretariat connects directly with the Conference Building by broad, spacious corridors which are pleasant in color and lighting. Here again there is a feeling of amplitude; the corridors open partly on big windows, which afford a very satisfactory variety. The entrances to the big meeting rooms are shielded by curved screen walls, which break up the long corridor vistas and provide contrast of form. When the General Assembly is completed the public will have access through that building instead of, as now, through the Secretariat. The circulation is so arranged that there is always separation of delegates from public and press, in relation to both the Council Rooms and the Conference Rooms.

The Conference Rooms, all alike, are simply and directly treated. They face the River, and the center section of the river wall is blanked off, leaving a full length window at each side. This is unpleasant, from the public gallery, because of the sharp contrast in brightness value thus created, but the location of the public gallery was not the decision of the architects. These rooms as well as the Council Rooms have communications booths on two sides. From one side radio, television and recording engineers can operate; the other side is for the simultaneous translators. For the Council, Conference and General Assembly areas there are about 200 such booths, a potential television studio, and large areas for the representatives of papers, radio and newsreels. The acoustics of all areas were given most careful study. The acoustical problem today is totally

(Text continued on page 118)

Facing page, top: Conference Building corridor, Entrance Level; bottom, press gallery, Economic and Social Council. Above, Delegates' area, Economic and Social Council

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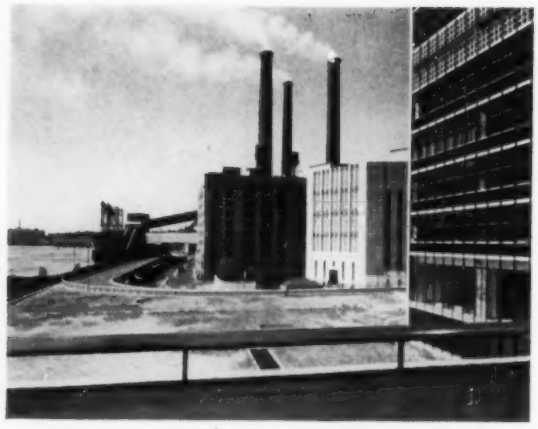
Above, left, Delegates' Lounge, north end of Conference Building; right, Inner and Outer Lounges at south end. Below, left, Security Council; right, Trusteeship Council

Above, left, press and public galleries, typical Conference Room; right, balcony at south end of Conference Building; below, typical Conference Room



different than it was in the old days, when the unaided voice-waves had to be carefully nursed to the far reaches of a hall. Today amplifiers are used, together with devices for preventing reflection and oscillation, such as walls slightly askew, as well as acoustical tile and wave-breaking materials for the walls.

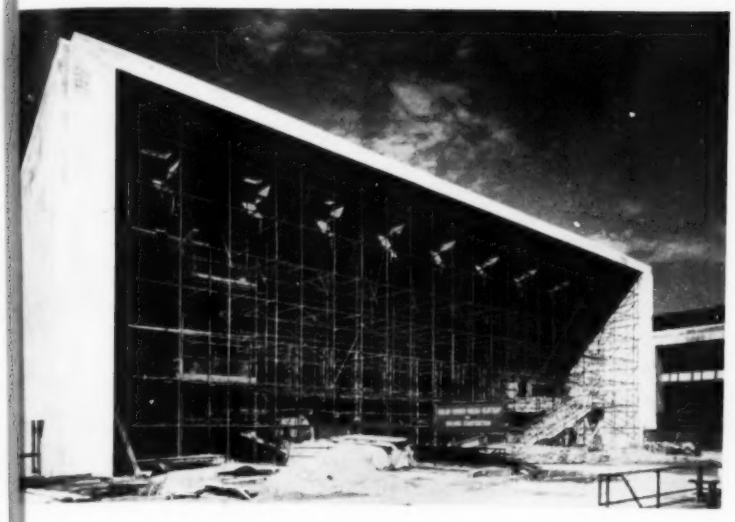
Every seat is equipped with ear-phones which can be switched to the simultaneous translation into any one of the five official languages. The actual speeches and the translations are all recorded. While technically marvelous and most impressive, it seemed to this observer that all this is admirably suited to produce the greatest possible amount of verbal vacuity and bombast and the least opportunity for an interchange of real thought. With every word possibly going around the world, preserved to "the last syllable of recorded time," the tiniest issue and smallest man are magnified out of all proportion.

The Council Chambers were designed and decorated by three different architects, all working within an exactly similar structural frame. The Security Council, donated by Norway, was done by Arnstein Arneberg. The walls are covered from floor to ceiling in a royal blue cloth with gold decorations, and the same material is used for upholstery and drapes. Doors and other woodwork are richly worked with inlay. Arneberg has built a free-standing screen in front of the window to serve as a background for the President of the Council, thus creating an effect very similar to that of the Conference Rooms below. While rich and consistent, the Security Council Room seems curiously antique; not "old-fashioned," but reminiscent rather of the best late medieval decors — the older part of the Chateau of Blois, or the sacristies of late Gothic cathedrals, almost as though the room had been restored by Viollet-le-Duc. One questions the wearability of the material, against which crowds will rub, and the constant repetition of the motif tends to become monotonous. The screen is to be decorated: a great deal of the final effect of the room will depend upon the decoration.

The Trusteeship Council was given by Denmark and designed by Finn Juhl. It is strikingly light and vibrant; fine wood is used, there are beautiful light railings, and the chairs and seats are upholstered in plain, clear colors carefully chosen; public, press, delegates and assistants all have different colors. The ceiling is a motive based on bar joists, sharply colored and arpeggio-like; and this is repeated in the carpet of the meeting portion of the room. The window, unobstructed except for translucent drapes, opens wide over the East River. This great light silhouettes speakers, even with the drapes drawn; in all these rooms the public will suffer from eye-strain. The Trusteeship Council, however, is a gay and pleasant room; perhaps the only false note is sounded by the side lighting fixtures, sort of tilted aluminum kettle-drums grossly out of scale with the sharp fineness of the rest of the design.

The Economic and Social Council, given by Sweden, designed by Sven Markelius, is the boldest and most dramatic of the three. Markelius has chosen to make a very sharp distinction between the public gallery and the delegates' working area, shrouding the former in somber colors, emphasizing light in the latter. The ceiling over the gallery has been left un-furred: all the ducts, pipes and paraphernalia ordinarily concealed are here exposed and painted in a strong pattern of grays, blacks and patches of off-white. Over the working area the architect has used concealed lighting hidden above a white free-form suspended ceiling. The same strong contrast is carried out in the color of the upholstery. The walls are wainscoted with vertical battens of light wood — all the woodwork is finely detailed and exquisitely finished.

Here are three rooms of identical size, serving identical purposes, with the same structural frame; in the three very similar conference rooms below, designed by the U.N. Planning Office and decorated by Abel Sorensen, no effort at decorative symbolism was attempted. It would be hard to find a better example of the uncertainty and irresolution that besets modern architecture outside the field of structural design. Striking as all three principal Council rooms are, they do not speak the same language; they lack a common accord of dignity. They are vibrant, thin; their attraction comes from and is on the surface, there is no depth. All three lack conviction; they are the expression of personal ideas of decoration,



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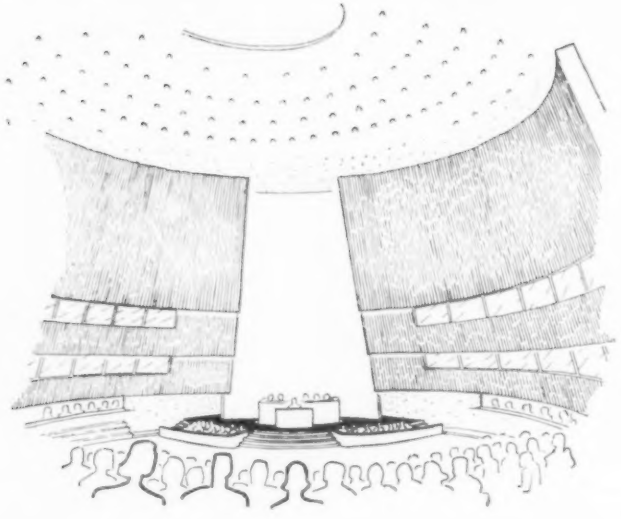
Above, south end, General Assembly, May 1952. Right, interior, public lobby, ramp and galleries under construction, north end of General Assembly

Facing page, top, looking south from Conference Building balcony; bottom, kitchen on top floor, Conference Building

not the expression of an underlying and common culture. They are not, in fact, *architectural* decoration at all, as is evident from the fact that the basic architecture has had no real influence on them. The great decorative styles of the past have been based on architectural form, not on superficial overlay. By contrast the unpretentious simplicity of the less important Conference rooms, providing merely a quiet work-a-day color scheme, seems much more to the point. . . . We are not convinced about U.N., we are not convinced about anything really; we cannot therefore convey metaphysical values, since they do not exist for us as conviction but only as an intellectual belief or something we read about.

The Conference Building also has lounges and bars for delegates and press, elegantly done, light and pleasant with their windows and sense of space; attractive, chic. The windows open over the river; north across the open terraces of the U.N. property, which will some day be landscaped and green, south towards the unsightly mass of the Con Edison plant and the confusion of Brooklyn. The roof of the building forms a terrace outside the Cafeteria for the Secretariat and the Dining Room for the delegates. These latter are efficient, pleasant rooms; the Dining Room broken up by low screens, with quite delightful furniture and flowers on every table and an air of quiet refinement. The kitchen, serving both eating places, shines with stainless steel and Monel metal; all the latest cooking and clean-up and serving devices have been incorporated. It deserves to be under the rotating direction of the finest chefs of each member country. Peace and accord may here perhaps at last be achieved not by the gross bellies of Napoleon's armies but by the delicate flatulence of delegates.

In general the architecture of the Conference Building is straightforward and clean. The large expanses of glass give it lightness and the effective handling of the masonry provides a strong, simple frame. But there are some curious anomalies, like the slanting window-wall at the north, apparently done for effect, and therefore unpleasant; and the odd free-form penthouse over the restaurant, inexplicable and inexcusable, particularly when seen from the main entrance court to the Secretariat. These and some other occasional forms are inconsistent and therefore disturbing esthetically; one seeks immediately to rationalize them, and no answer is apparent. Much of the detailing, too, is inconsistent and sometimes incongruous. In the last analysis it is the details of a structure that bind it together and give it coherence, that produce a sense of scale and relation between parts. Most modern architecture lacks just this careful attention to detail, and the U.N. is no exception, although one had hoped it would be, and perhaps had it been designed in less of a frantic rush and had more leisure and loving care been possible, it might have been. Time and love as well as conviction go into truly great art. St. Peter's was not built in a year, nor was the Farnese Palace designed in a few months. Although the Director of Planning has given



Interior, General Assembly

tireless effort to design there simply has not been enough time for the full expression of thought or for the revision necessary to fuse the parts into a thoroughly studied and consistent whole.

Below the street level of the Secretariat and Conference Building, both structures where the flow of words is unimpeded, are the printing plant and recording rooms where the flow is dammed and immortalized on paper and tape. The huge plant prints everything — delegates' speeches, reports of international portent, daily menus for the restaurant, forms. Here too are carpenter and upholstery shops, metal working and electric shops for the maintenance of the vast project. Here is the equipment for the heating, ventilating and refrigeration of the air-conditioning plant and the other mechanical needs. Here is a complete fire-fighting section, with a control room into which trouble in any part of any of the structures is automatically flashed on light panels. Here is the communications control room: from every device leads come back here to a control panel. Here are the well separated truck entrance, the auto-repair station, and general services such as locker rooms and storage. Below all this for two levels, and extending under the General Assembly and entrance courts as well, for three levels, is parking for 1500 cars.

Coming back up, there is the General Assembly, the real center of the Parliament of Nations. This, not the Secretariat towering in its green and gray brilliance, nor the half-hidden Conference Building, this and not those working areas is the symbolic core of the world's hopes. This the unborn World's Hypostyle Hall, its Parthenon, its Temple of Supreme Harmony, the emblem of Government rising, like that of London, Paris or Washington, over a noble river.

The architects felt this, of course. The General Assembly is, in plan, the focal point of the composition, and the flowing form of the structure was to characterize and emphasize its difference and its importance.

To me it lacks dignity and strength; it has a certain grace, but no beauty. The concave sweep of the wall, the concave droop of the roof make it weak and uncertain. A catenary held between two verticals has power and precision, but this curve is amorphous and is chopped off at points that have no visible relation to the curve or to each other. The dome of the Assembly Hall and the little pill-boxes that enclose the elevator machinery are inept and unrelated to the composition. The dome neither dominates, as one feels a dome should do, nor is it a decorative element, as it, together with the elevator enclosures, might have been. There are other curious discordances: the north front, the public entrance, is of so completely different a character from the south front — which opens out to the delegates' garden and the Secretariat entrance court — that although they are never seen at the same time the memory of the one comes as a shock when one looks at the other. The south front is of a piece with the other

Joseph W. Molitor

buildings, a great window in a simple frame, and completes the composition of the court on which it faces. The north front, meant to be imposing, is quite unconvincing. On it, the use of photo-sensitive glass between the marble piers was intended to give a "solid" effect, which it momentarily does, and then one understands it is not solid at all, but a veneer seeming very thin and fragile and still somehow forbidding (though, of course, the building is still under construction). And on the west side, the First Avenue façade, the simplicity of the curved wall is marred by the rigidity of the ramps and the unbearably heavy canopy of the delegates' entrance.

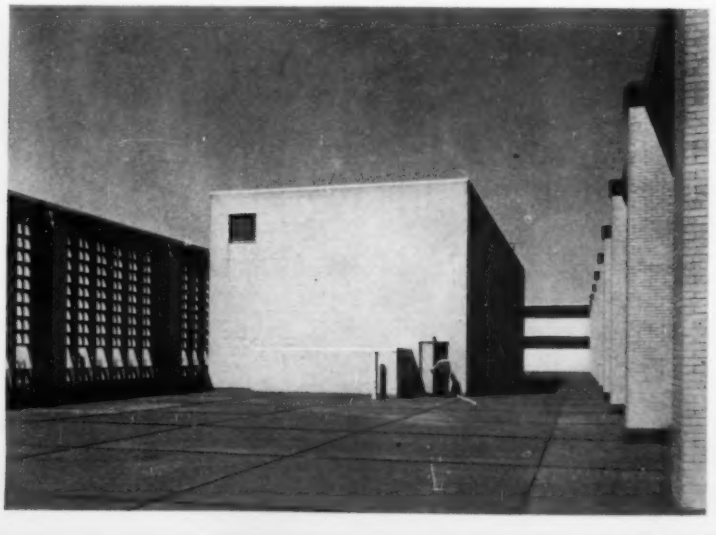
The inside cannot be fully judged as yet. However, the plan is again thoroughly coordinated and excellent. The public enters into a huge hall, open to the roof and lighted by the strips between the piers with a very cold and gray light. Great ramps lead up to the public galleries, and it will no doubt be most impressive in scale. To the left of the foyer the public goes into a large space with big windows opening to the garden; the windows are cut across by a ramp similar to the one on the First Avenue side. The ramps provide fire exits from the main delegates' floor. This hall will be used for exhibitions and displays, and goes on to the connecting element between the General Assembly and the Conference Building with its Council and Conference rooms. Delegates enter from the First Avenue side, and go down to coat rooms and another large conference room, or up a double stairway with escalator in between to their lounge overlooking a garden and the Secretariat court. The garden is reached by a flight of free-form steps which, together with the proposed two-story marquee over the Secretariat entrance, was intended as a foil and diversion to the prevailing severity. From their foyer the delegates can go to the Assembly Hall or Conference Building without conflicting with the public.

The Assembly Hall itself will undoubtedly be a most impressive room. It will have great scale, and every effort has been made to achieve a dramatic setting for the august body it will house. Like the other meeting rooms it will be acoustically perfect, and equipped with every device for hearing, recording and publicity.

The planning of the U.N. group is a triumph of clarity and ingenuity, a putting together and sorting out of an almost incredible variety of elements and functions. It is also a triumph of technical skill, of structural ability, of mechanical engineering. Almost every possible device of a mechanical nature has been used to further the comfort of the users of the buildings, to speed up communication, to disseminate information quickly and accurately. It is, in other words, a very fine example of American architectural skill.

It is not, however, much more than that; and perhaps it could not be. Our architectural genius today, and in the United States particularly, lies in the design of buildings for the use of business. Our most successful structures, esthetically as well as technically, are office buildings and factories. We are accomplished in the design of residences, too; but none of these classes of architecture speaks to the deep symbolic needs of our being, they have little emotional impact. The Secretariat is the U.N. to the world. By its simplicity of form and dominating mass it has become the symbol for U.N. The General Assembly building does not dominate either by its physical presence or its spiritual content. It is not that the effort to have the General Assembly provide the symbol was not made: it was. The failure is not the fault of the architects, but of a time in which no emotional symbols are possible because there is no deep belief, no emotional content in our lives. Symbols are not "created": they exist or they do not exist. The non-existent symbolism that was consciously striven for in the General Assembly got transferred subconsciously and necessarily to the real and existing symbol, the building which houses what we most believe in — paper-work, files, reports, pay-rolls, publicity. Symbols, great art, are not created *ad hoc;* they are inherent in the cultural and emotional heritage, and appear as such, whether we like them or not.

Left to right, facing page: Conference Room No. 4; printing plant.
This page: typical mechanical floor in Secretariat; Secretariat roof



UNITED NATIONS

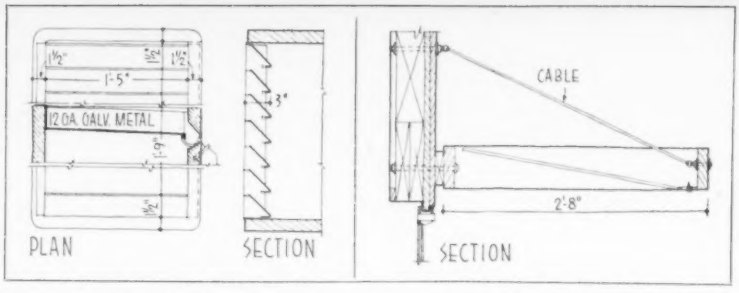
Above, left, looking north along Franklin D. Roosevelt Drive, with U.N. service drive at left center; right, General Assembly and Secretariat from Northwest. Below, U.N. Headquarters from the East River

Joseph W. Molitor

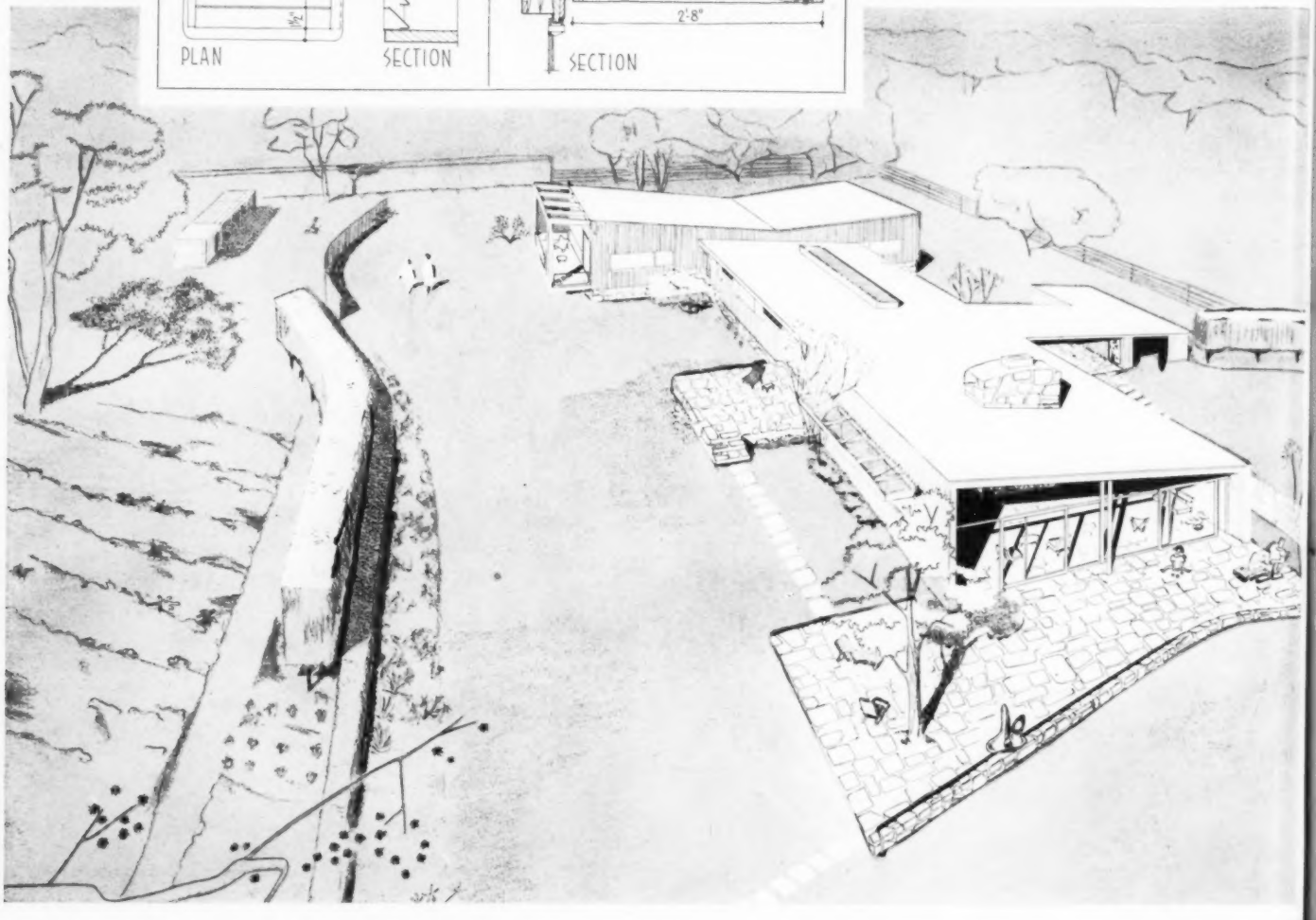
TWO HOUSES

George Nemeny and A. W. Geller, Architects

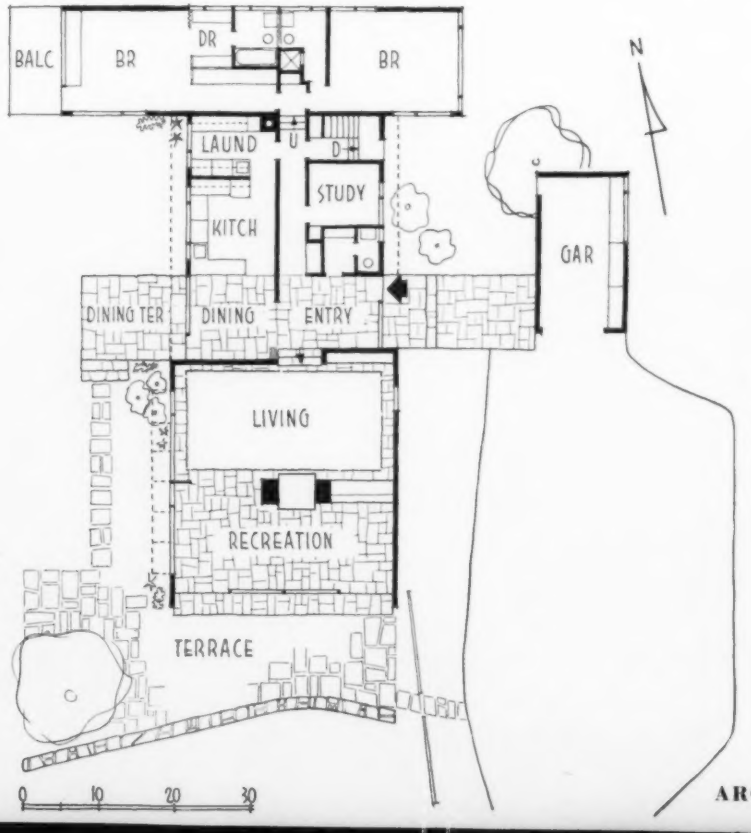
Ingenious metal rain guard for chimney

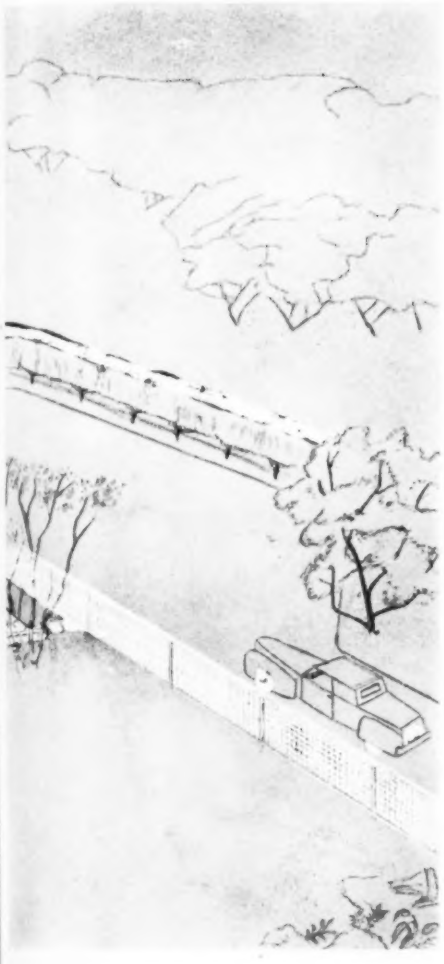


Sunshade consists of amber glass set in wood frame



Rendering by Stanley M. Sherman





OPENNESS WITH PRIVACY FOR A THREE ZONE PLAN

House for Mr. & Mrs. Jack Diamond

Hewlett Neck, Long Island, N. Y.

George Nemeny & A. W. Geller, Architects

BY JUDICIOUSLY PLACING the house against the far northeast zoning limit of the plot, all principal rooms can face southwest to a maximum size garden area, which in turn is screened from neighboring houses by fences and planting. Privacy from the northeast is gained by the detached garage and minimum fenestration in this direction, as well as by raising the bedroom element to provide a playroom below grade.

The glass-ended entry which divides the living and utility zones (see plan) yields an outside vista in its two main directions as well as a glimpse of the outdoors through and around the open fireplace in the third direction.

Exterior materials: bluestone paving and walks; gray stained vertical cedar boards; flush doors, glass frames and overhangs painted white.

Garden fence, blank wall and separated garage (below) serve as visual block to the east. Motor court in foreground can accommodate six cars

Ezra Stoller

Kitchen (left) has pass-through to dining area beyond; birch shelves above can be opened from either side. Both kitchen and dining areas orient to southwest

Glass walled entry (facing page) carries flagstone and cedar boards inside — demonstrates how detached garage blocks view of neighbors, creates open feeling

THE DIAMOND HOUSE

Ezra Stoller

Passage to bedroom zone (above) becomes a skylighted gallery for owner's paintings. Fluorescent tubes between skylight panels provide light at night

Birch panels in living-recreation zone (left) serve as foil for owner's treasured oriental rugs. Adjustable brass lighting fixture was designed by architects

Ezra Stoller

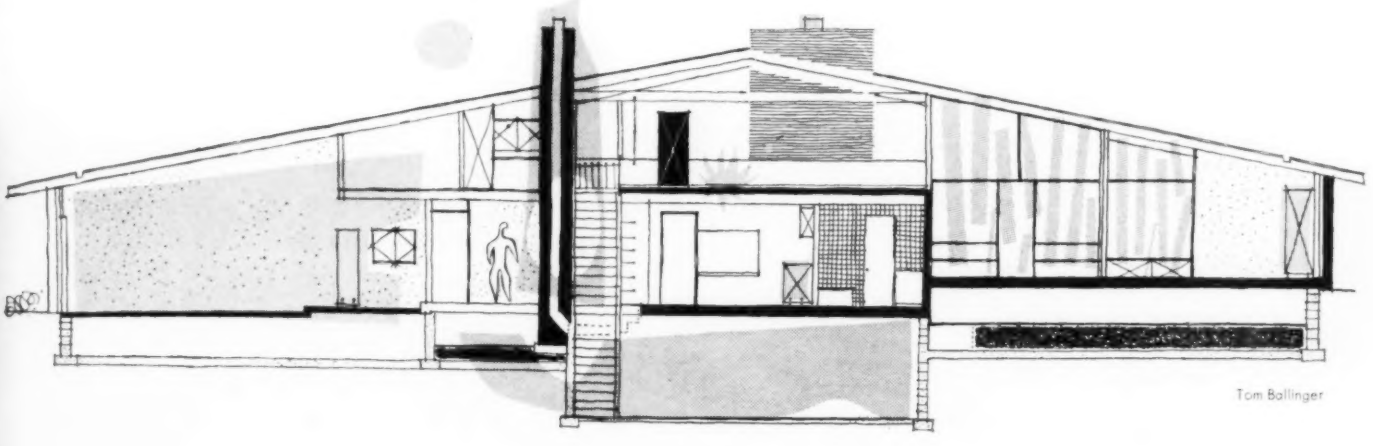
THE DIAMOND HOUSE

Master bedroom contains built-in mahogany desk unit under window; cabinet for radio, phone and books at head of beds; special wardrobe units — all architect designed. Door leads to cantilevered balcony, which features adjustable canvas sun screen

THE DESIGN APPROACH AND THE BANK ACCOUNT

THE process by means of which these two houses came into being and the question of whether the architects' bank account became as a result fatter or leaner are points of interest architects at large may ponder.

As for the process, George Nemeny and A. W. Geller, designers of the houses, feel that the kind of architecture represented by them requires a great amount of personal, continuous attention and follow through. In starting a house, their first step is a careful analysis of the client family's needs, tastes and budget. As an example, the program for the Diamond house amounted to six, single-spaced, typewritten pages. As the design is then slowly developed, client education and persuasion are often involved in the process, as well as time consuming discussions of unconventional construction and unusual details. As for drawings, the set for the Diamond house comprised thirty sheets, of which twenty were details. The foregoing examples are typical.

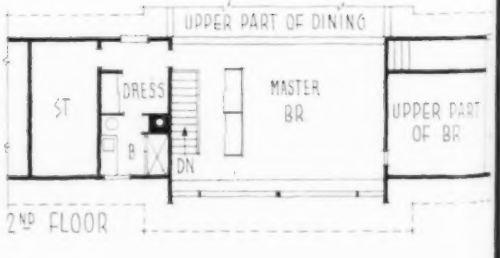


Tom Ballinger

Philosophically, these architects try to avoid a formulated approach — they like to mix the ingredients, stir the pot, and see what happens. They explore all the avenues they think might lead to a possible solution, and after trying many of them finally arrive at an answer which they regard as the synthesis or crystallization of their best thought at that time. They regard each house as a new experience and a lesson — not as a further example in the unfolding of a personal style. To engender a more creative attitude, they, like certain others, try to free their minds of the current clichés and too direct influences. They prefer "the open road." They keep the basic solution and all of its elements flexible as long as possible, even to a point where changes are sometimes made on the job in order to secure the desired effect.

In answer to our question, "can this kind of highly personalized practice be conducted at a profit charging minimum Institute rates?" their answer was that if such a practice consisted entirely of houses, it would have a tough struggle indeed, and might not be able to survive. However, these architects find that if their commissions are in the ratio of 60 per cent residential to 40 per cent other types, they can get along well enough. Aside from that, though, Nemeny and Geller feel that the satisfaction they derive from doing the most creative job they are capable of, plus the owner's pride in his home, is much more important than making an assured profit.

Ezra Stoller



A GENTLY SLOPING ROOF SHELTERS THREE LEVELS

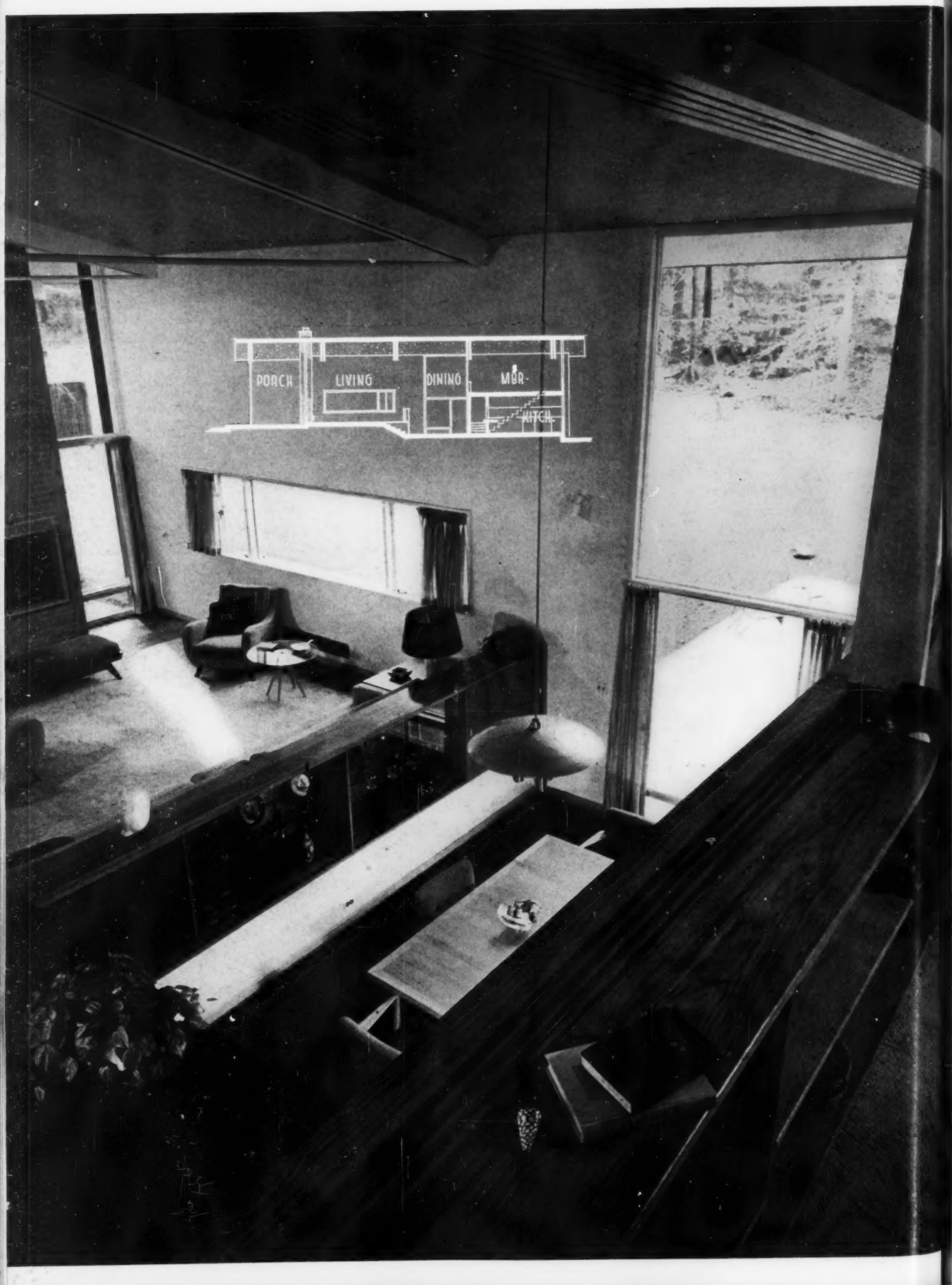
House for Mr. & Mrs. Morton G. Mack
North Newstead, South Orange, N. J.
George Nemeny & A. W. Geller, Architects

HERE IS A HOUSE DESIGN that capitalizes on a two-story, sloping-roof building restriction by playing it up and making it the theme for a dramatic effect. An interesting T shaped plan in three levels is thus pulled into spatial unity by the single, continuous, pitched roof that shelters it — this feeling further emphasized by the simple device of painting the entire ceiling and exterior soffit a soft, sky-blue color.

The structure is honestly expressed in the living-dining-porch wing of the T: simple triangular trusses with steel tie rods, spaced 14 ft on centers.

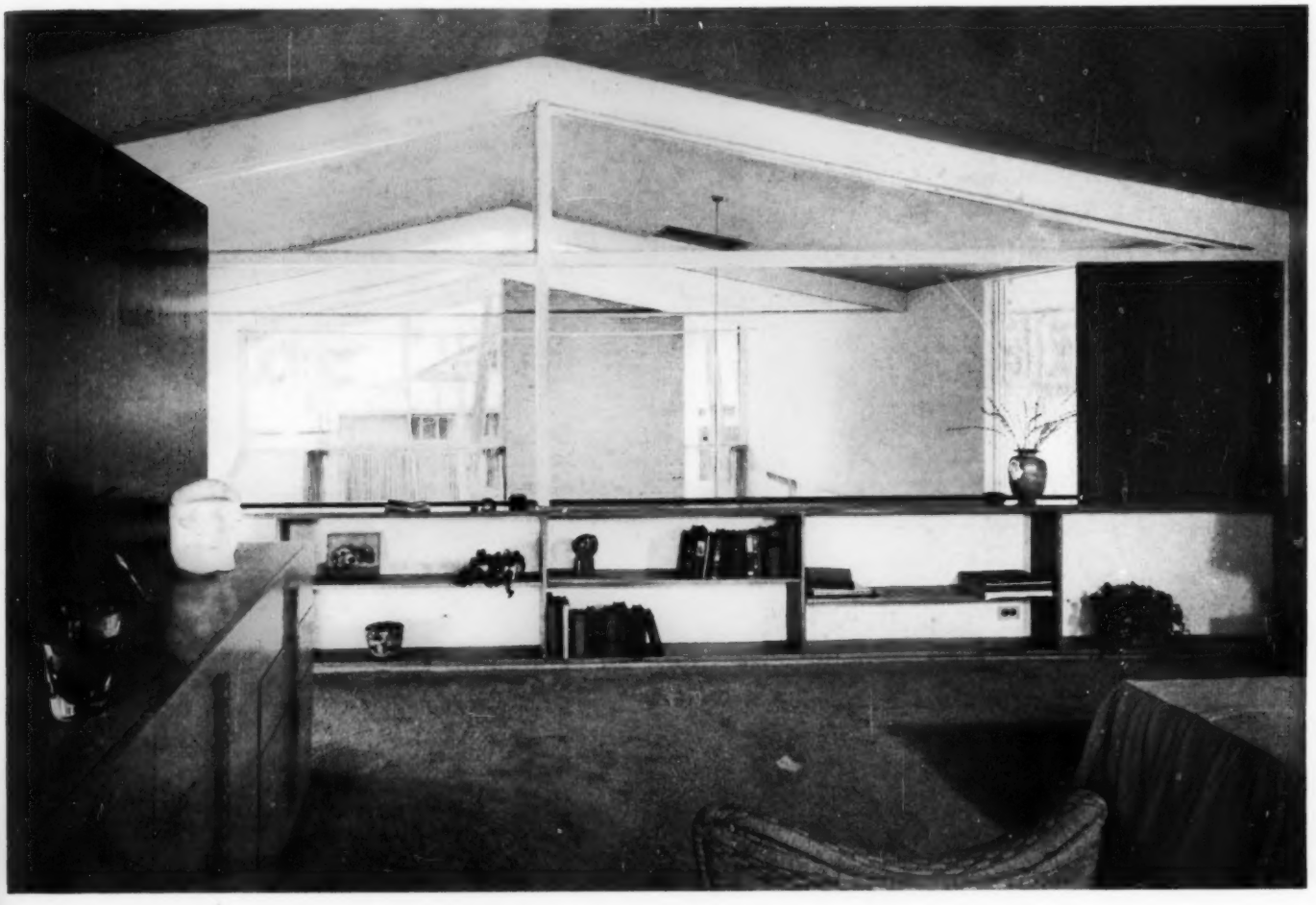
Exterior glass frames, doors, and roof overhang fascias are painted white to contrast with the vertical redwood siding; fireplace brick is a light warm gray. Interior walls are all painted white; interior cabinets are mahogany; kitchen cabinets are white oak.

Direct elevation of living porch (opposite page) assumes an almost Mondrianesque quality in relationships of glass, brick and wood. In photo above, unity created by the single roof becomes apparent


PORCH
LIVING
DINING
MBR
KITCH

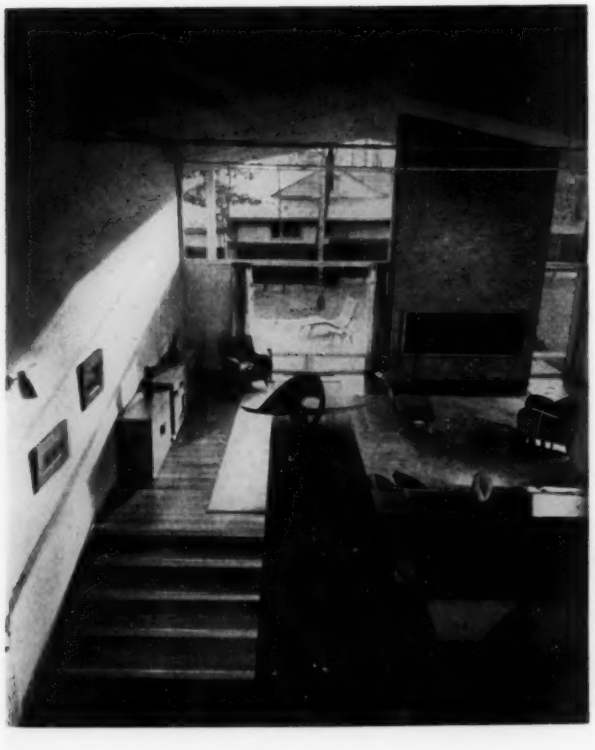
Looking down from the master bedroom (left page) the three-level relationship can be seen best, trusses express the structure

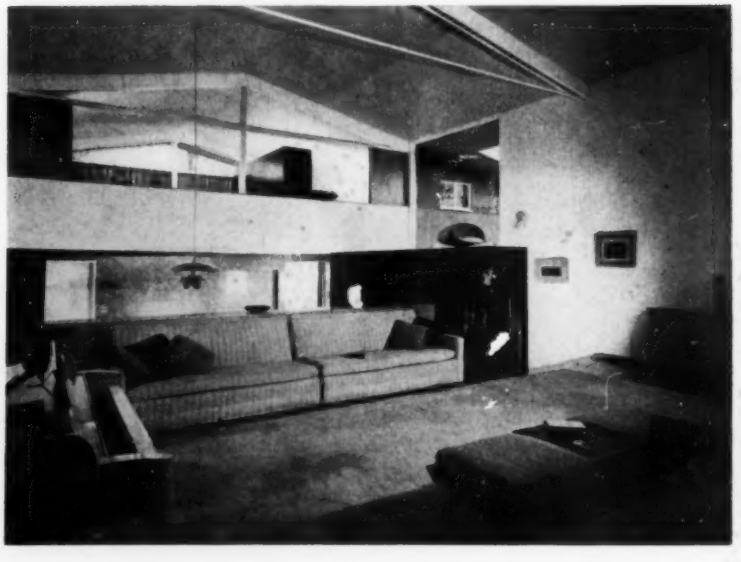
Master bedroom bookcase (below) becomes balcony railing. Privacy is obtained by closing sliding panels, top triangle glazed



Ezra Stoller

From entry (left) five risers ascend to spacious living area which in turn opens out to sheltered porch beyond





View from living area (above) shows the bedroom balcony over kitchen-laundry

Ezra Stoller

THE MACK HOUSE

Photos above show (left) child's bedroom and playroom; (right) the kitchen and laundry.

When standing near the ground level entrance (right) one can see through to the outdoors ahead and can enter either dining area at same level or can turn left to ascend to living area. Straight through is passage to child's quarters; at near right the kitchen pass-through projects

NEW ORLEANS: McDONOGH NO. 39 ELEMENTARY SCHOOL

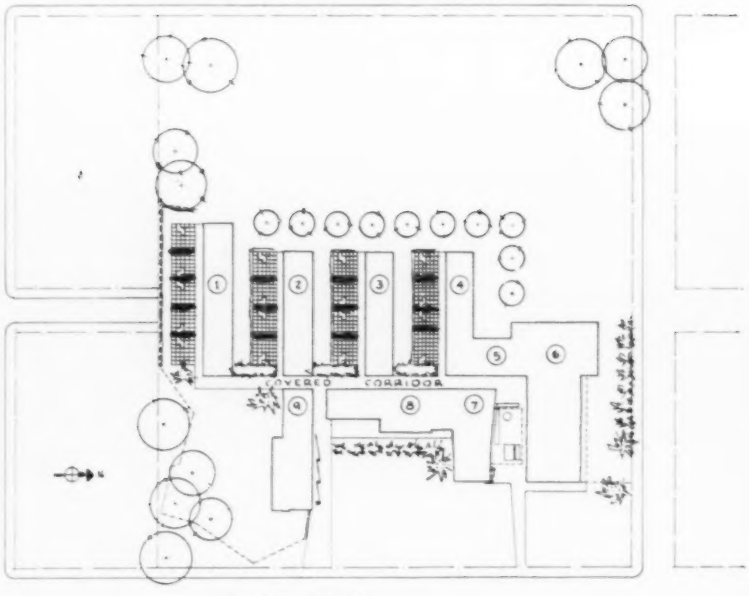
Gentilly School Associated Architects:

Freret & Wolf

Golstein, Parham & Labouisse

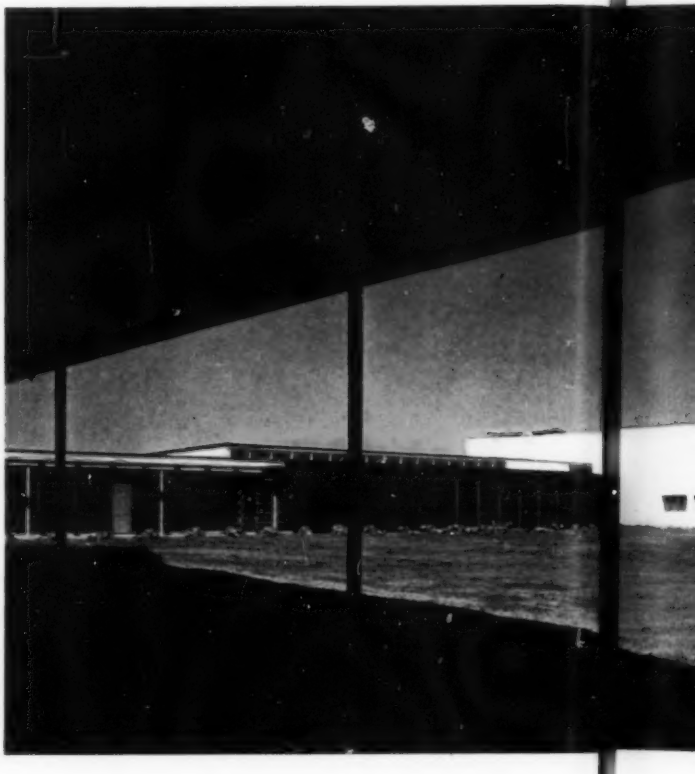
Curtis & Davis

Joseph W. Molitor



PLOT PLAN
SCALE

L E G E N D
1–4 Elementary School
5 Lockers
6 Gymnasium & Cafeteria
7 Auditorium
8 Multi-Purpose Room, Offices
9 Kindergarten



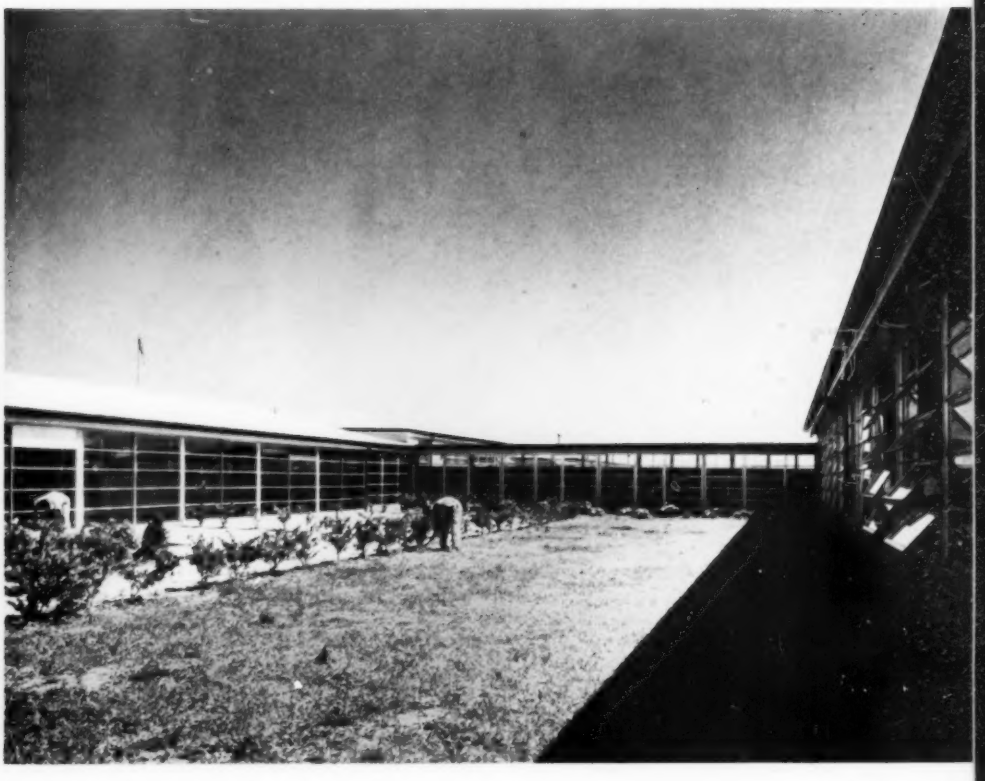
THE FIRST POINT on which all the architects of this New Orleans school agreed was that every classroom must have cross ventilation and an adjoining outdoor area where classes could meet in good weather. Since protection from direct sunlight was essential, a classroom exposure directly to the north was indicated, and the architects were faced with a major problem: if the corridors were placed to the south, they would cut off the classrooms from their outdoor areas; if the corridors were placed to the north, sun control devices along the south would be required. After considerable study, the architects decided that the sun control afforded by corridors along the south side outweighed the advantages of direct connection between classrooms and outdoor areas.

Another main planning factor was the knowledge that certain parts of the school would be used for community functions, and should be well segregated from the classroom buildings. The auditorium, gymnasium, library and cafeteria, accordingly, were all located at the north end of the site, and given their own entrance directly from the street.

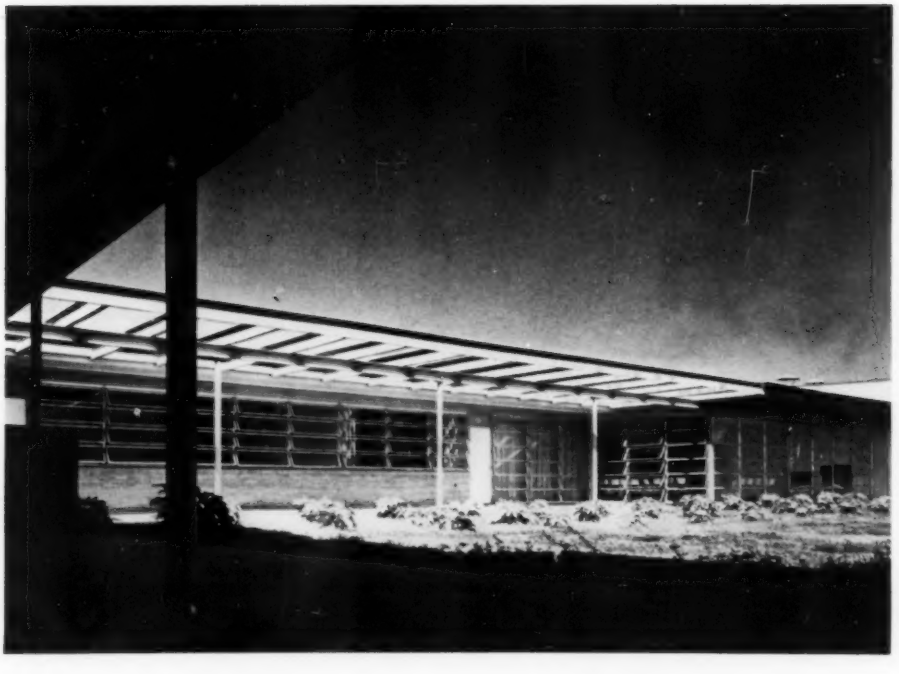
The administrative wing occupies a central position on the east side of the north-south corridor, and adjacent to the main school entrance. All elementary school classrooms are on the west side of the corridor. The kindergarten building and playground have their own corner of the site, right alongside the administration wing (the architects felt that the kindergarten needs closer administrative control than the elementary department), and well separated from the other classroom buildings.

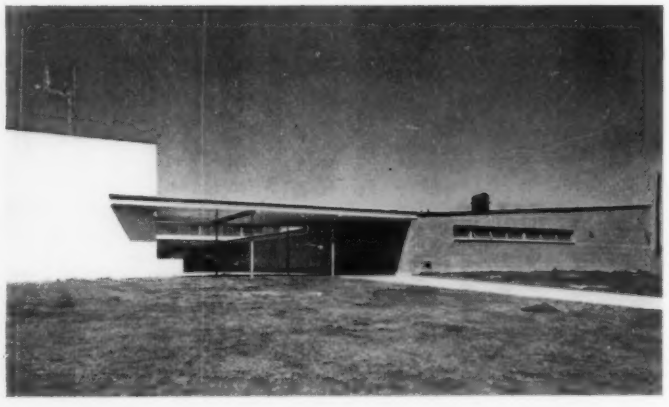
Original plans called for open corridors throughout, but, as a bow to winter weather, classroom corridors were finally closed in with sliding doors. The school was designed with as many structural members as possible exposed, and with the classroom cabinets forming the separation between corridor and classroom. Foundations are wood pile and concrete slab; framing is light steel and masonry. Exterior walls are brick and concrete block, painted. Interior walls are glazed tile and plaster, floors are concrete and asphalt tile, ceilings are acoustic tile. Heating is radiant, in floor slab.

All classroom buildings are connected by a central corridor, to the south of each building is a generous court, partly paved, where classes can meet in good weather



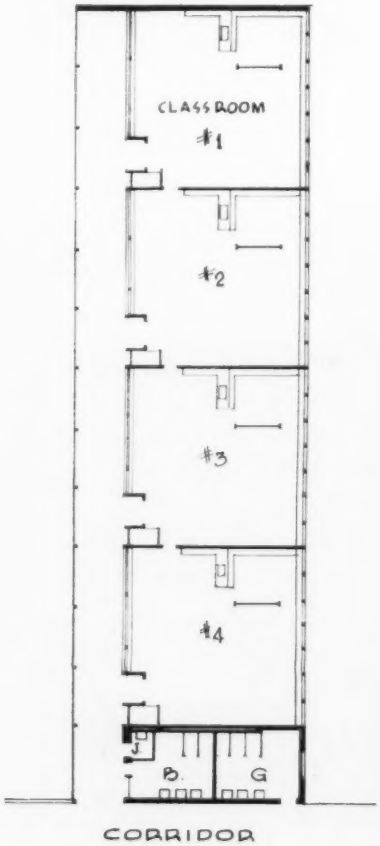
Joseph W. Molitor





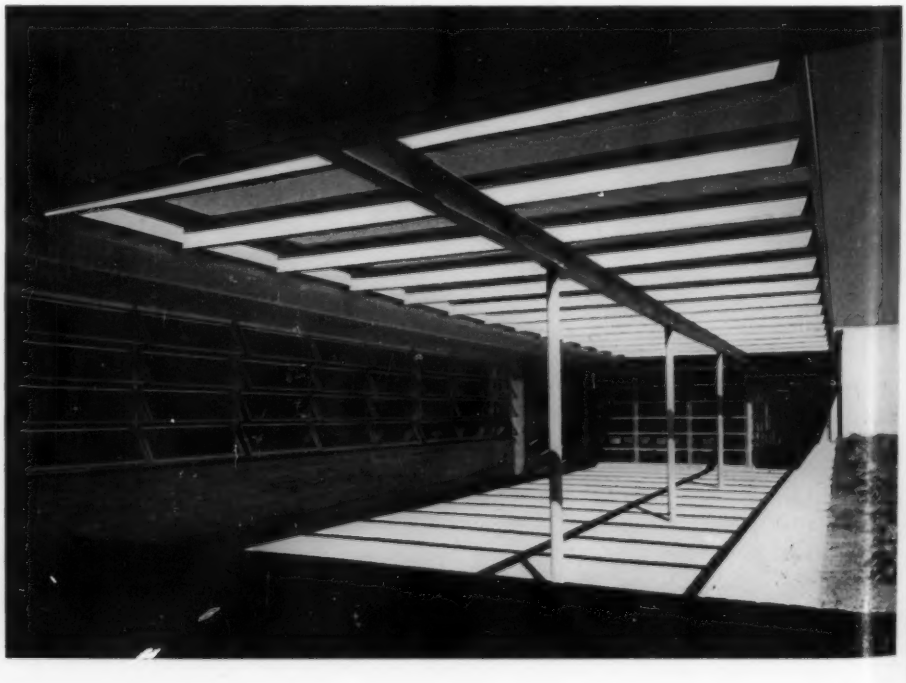
Joseph W. Molitor

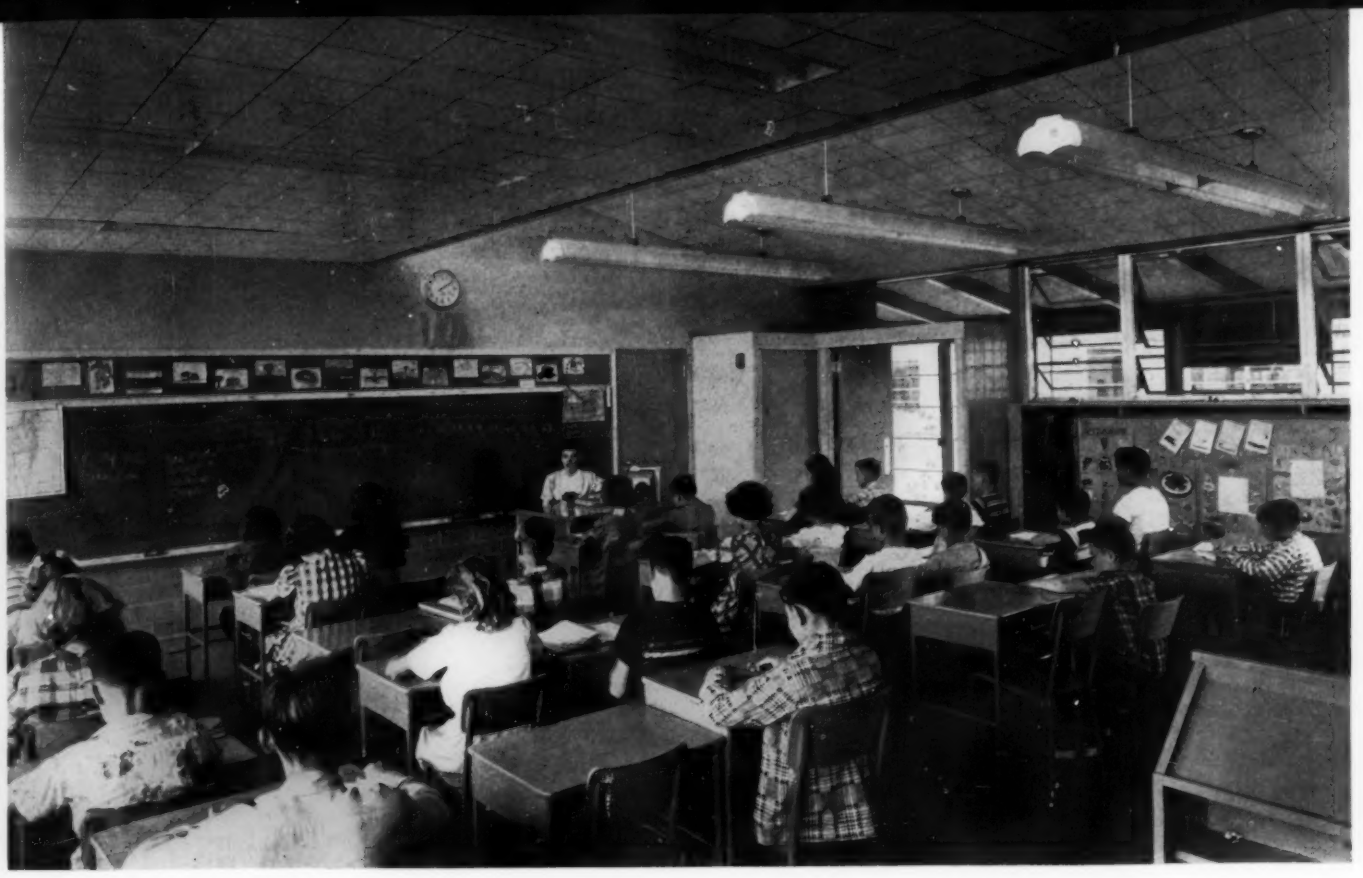
Left above: entrance to "community" end of school — auditorium, gymnasium and cafeteria. Above: typical classroom corridor, sliding glass doors provide required cross ventilation for classrooms. Left: plan of classroom building



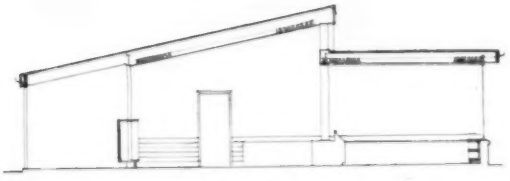
·FLOOR PLAN·

SCALE 1" 0 4 8 12



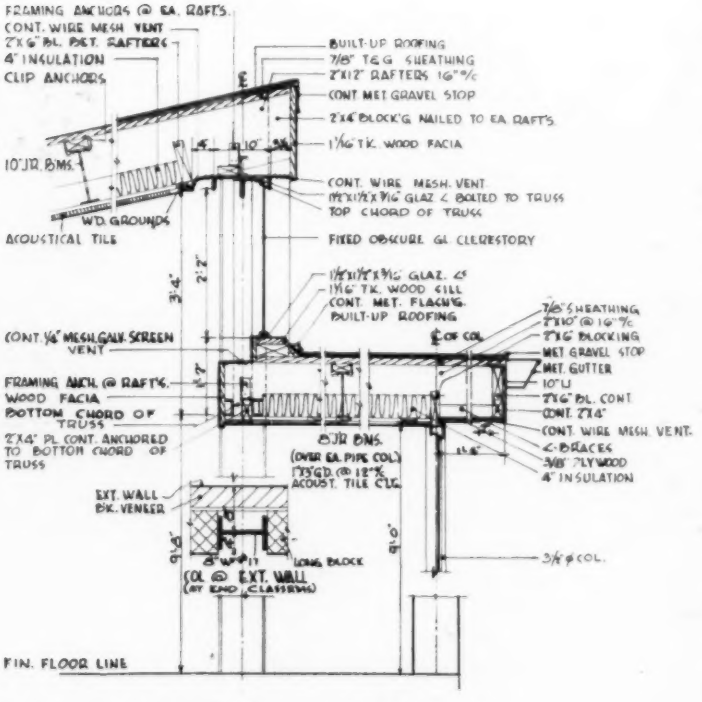


Every classroom has window sill at height suitable for age group. Several scale models were made of typical classroom sections and tested with light meters to assure uniform light intensity throughout the room.



TYPICAL SECTION BUILDINGS 1-2 & 4

SCALE 4 0 4 8 12



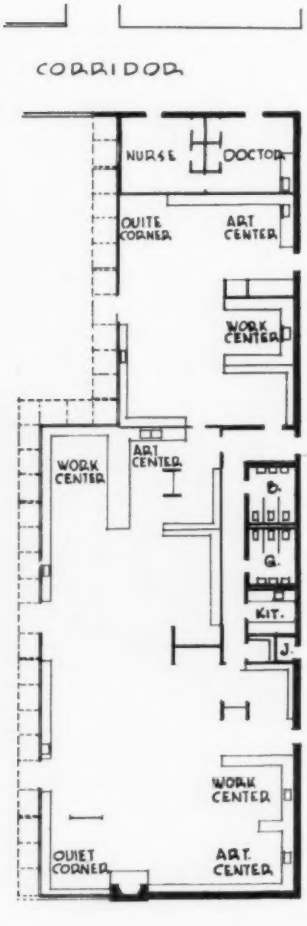
CONSTRUCTION DETAILS

SCALE 0 8 12 16

NEW ORLEANS SCHOOL

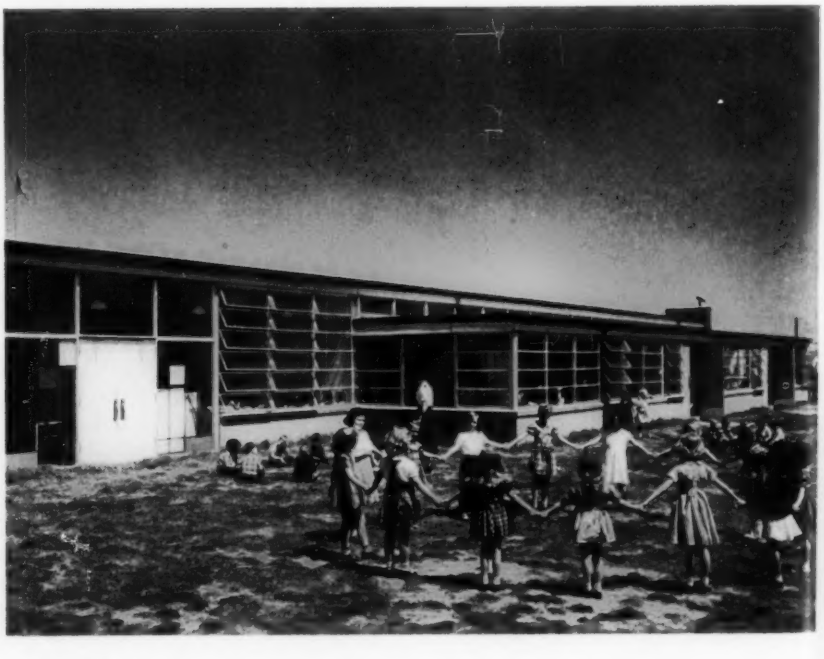
KINDERGARTEN

Entrances to kindergarten building are from main entrance corridor; low brick wall protects the youngsters from onrushing elementary school pupils. School nurse and doctor have offices at west end of building



FLOOR PLAN·

Scale 4 0 4 8 12



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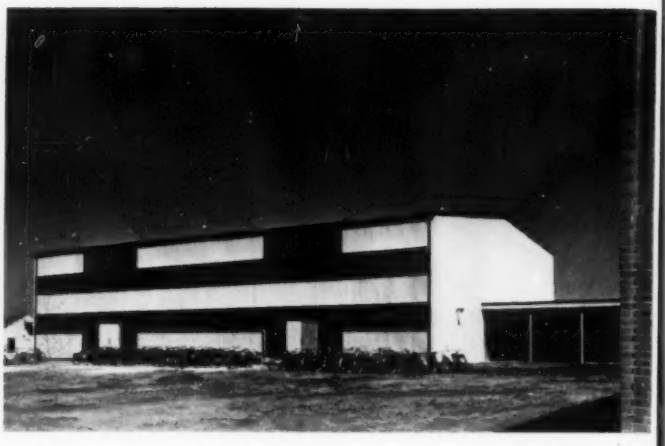
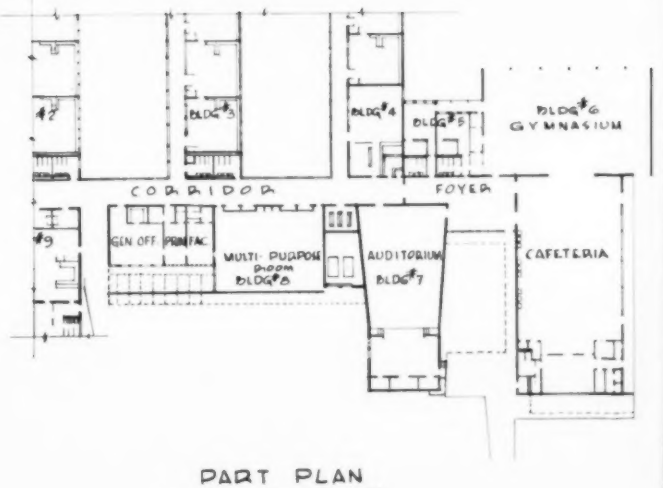
Kindergarten building has own play area (opposite page) at southeast corner of site, well away from elementary school traffic. Building is designed in scale with small occupants: most partitions are pint-sized storage areas, window sills and ceilings are low



NEW ORLEANS SCHOOL

CAREFUL STUDY was made of the school elements which would be, or might be, used by the community at large. The gymnasium, cafeteria and auditorium have a special "public" entrance, and can be used quite independently of the school proper. The library (above), which might possibly be used by non-students, was placed at the east end of Building 4, easily accessible to the general public. The multi-purpose room (below), intended primarily for special classes and small school assemblies, also could be put to community use.



PART PLAN

SCALE 30 0 30 60

NEW ORLEANS SCHOOL

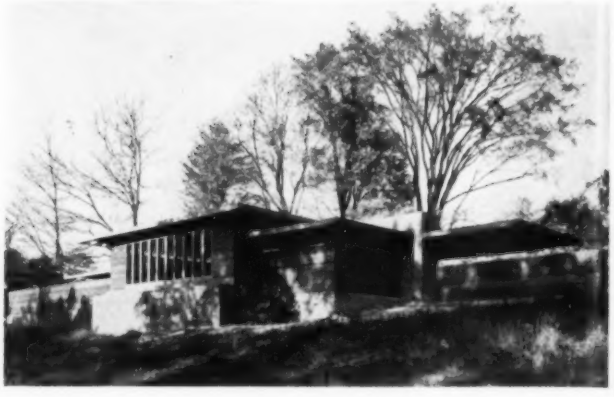
Across-page: top left, library, top right, gymnasium from west, bottom, multi-purpose room. Above: left, gymnasium from community entrance; right, gymnasium interior. Below--cafeteria has wash basin at entrance

Joseph W. Molitor

THE ARCHITECTURE

Museum of Modern Art

Le Corbusier's Swiss Building,
Cité Universitaire, Paris, 1931



Museum of Modern Art

House at Okemos, Mich., Frank Lloyd Wright

"Where is a common denominator . . .?"

Willow Run Bomber Plant. Albert Kahn Associated Architect & Engineers

Hedrich-Blessing

Chicago Apartment House, Mies van der Rohe

Hedrich-Blessing, Museum of Modern Art

Elwood M. Payne

Corn Products Plant, Corpus Christi, The H. K. Ferguson Co.

Walter Gropius' own house

Damora

OF RELATIVITY

By Richard M. Bennett

WHEN OBSERVED FACTS contradict prevailing theory, when master architects create excellent buildings though they reflect apparently conflicting philosophies, and when our students are accused of more interest in employing the mannerism and details that highlight the differences than in creating their own solutions, the time has come to discover a positive philosophy broad enough to embrace all good things and condemn bad things even though they may be based on a "good" theory. To put it in other words, must we not find and emphasize the broad architectural principles that allow us to admire such dissimilar structures as a windowless factory and a new Texas plant that merely roofs its machinery; Mies' Farnsworth house, Henry Hill's own home; the UN building, Wright's Johnson Wax factory; both an early Neutra house and a new one? Where is a common denominator for a Wright apprentice, a student of Gropius, and a graduate of the Illinois Institute of Technology? And, more important than solving the conflict of the fierce loyalties of youth, what can be the framework of approach for all conscientious practitioners who are honestly striving to overcome what they fear may be the prejudices of *their* youth?

It is these men who are most apt to note and remember the contradiction between what men say and what men do — between the claims of followers and the realities they build. They hear that a building which received international recognition and was visited by thousands a year ago has never been lived in because it did not fit the needs of its client and now sits vacant with parts of its daring structure quietly collapsed. Remembering the early arguments, arguments they used themselves, that modern architecture is based on economy, they read of the utterly fantastic cost of a perfect modern building; they wonder about work which is presented to the public as the last word — more than that, the building of tomorrow — which makes little pretense of considering economic means of maintaining basic comfort. They read the predictions and manifestoes of machine-age architecture and are disappointed as one prefabricating experiment after another fails, and wonder why. They are impressed by the master who lets them understand that beauty can only lie in the simple geometric shape and are a little perplexed with certain forms he revels in actually building. And finally their pondering of the ultimate contradiction that "less is more" can only be assuaged by Frank Lloyd Wright's great insight which takes refuge in the fact or truth that "the truth transcends the facts."

For they know that in the turmoil and in spite of the contradictions there is tremendous vitality, excitement and promise in the tide of modern architecture. Its strength can only be coming from a basic rightness; underlying it are principles which have always been right and which must be applied to today's problems with today's means. They know that the solution to the architect's problem is not the simple choice of following Wright or Mies; deciding to expose construction; to suppress the mechanical plant; to eliminate crafts — to revere craftsmanship; to seek to develop a regional style — to lose themselves in international clichés; to base their work on some dynamic module; to copy the Swedes; or to go back to Vitruvius.

PERHAPS the solution is not to be found in architecture at all, but in observation of the world around us — the social, economic and scientific forces and ideas of our time which our architecture must reflect even as all other architectures have been reflections of theirs.

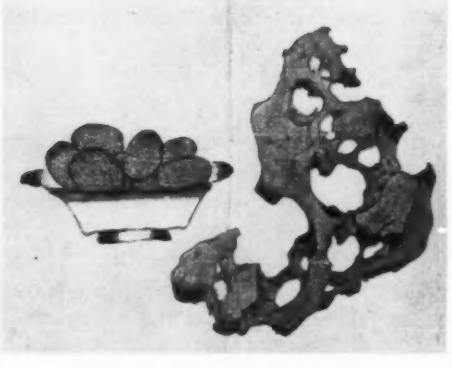
First of all, if we see contradictions in our architecture, it is because our time in history is beset with a variety of contradictions. From these men have drawn, are drawing, conflicting theories. In some fields there exist apparently two absolute answers over which they continue to debate, and in some fields even prepare to go to war. This is tragically apparent in economics and politics. Marx and Engels, with many others, pointed to social and economic inequalities. Marx's absolute solution to unfair distribution was Communism, leading to the Russian Revolution. Far from solving poverty and power, master and worker, that solution has intensified many evils. Yet millions prepare for war urged on by slogans derived from a system supposed to solve *all* things. Meanwhile in free nations where a relative rather than an absolute approach is possible, the difference between rich and poor has been narrowing without completly stifling the relative free growth of individuals.

A happier and more conclusive example of the clash between observed fact and accepted theory is in the field of science. Euclidean geometry — still the architect's tool — became suspect when the world the astronomers could see behaved in a way at variance with our then absolute mathematics. It was not until Einstein proposed and proved his Theory of Relativity that science was truly free to move forward again. His thinking has caused the absolute world of the scientist to disappear, and we are told mass, energy, space and time are interchangeable, straight lines bend, and mathematical systems can be made up. While convenient

Painting from Southern Rhodesia, from Arts Graphiques 39

French tapestry, 15th century, from La Tapisserie

Remains of Cretan plaque in silver, 2000 B.C.



Chinese wood block, 17th century

Ceremonial axe, Belgian Congo, Smith College Museum of Art

Viewing . . . that wealth of expression, can there be any one way?

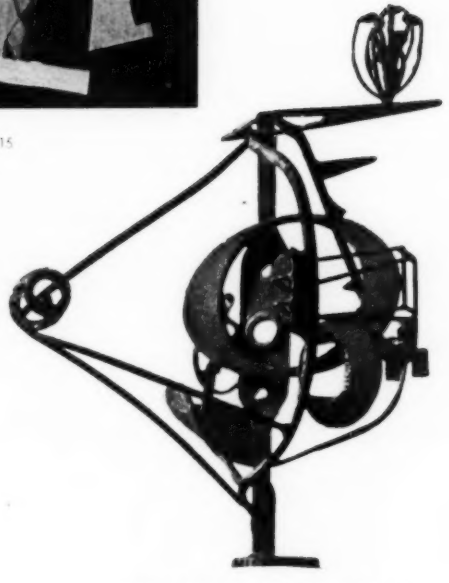
within certain practical limits, there is no system of measurement and mathematics that of necessity truly describes or fits the universe we are in. There is no magic right or wrong.

In the field of art — well what is art? Malraux in his "Twilight of the Absolute" reviews the sweeping panorama of cave paintings and Renaissance tapestry, African masques and Greek statues, Chinese drawing and Picasso's recent pottery, all available to us in pictures and museums. Viewing but a part of that wealth of expression we have inherited and are creating, what art teacher can say, "*This* is *the* way to paint — to draw — to model?"

The young field of social science has much to teach the architect. He has always seen himself as a practical psychologist, a leader. But new disciplines are transforming our idea of leader and led. Social decision and action is not typified by the man on horseback unsheathing his sword and leading a charge. That change is the result of many relative factors: access to raw materials, frustration of ideas, the explosive effect of wealth-producing machines — a myriad of forces about which the mind of a free community may be finally crystallized, we are told, by the catalytic influence of its postman or barber.

Reflection may call to mind other examples in which only relative good may be discovered instead of the absolute black or white decision we long for. Certainly there is enough evidence to suggest that our time is the Age of Relativity, and our architecture must be evaluated in such a framework. Of course this is no new theory: most of our definitions of architecture say it is the product of social and economic forces and a synthesis of structure, function and esthetics. How men have tried to transform these related factors into a

Harlequin by Picasso, 1915



Blackburn: Song of an Irish Blacksmith, David Smith
Courtesy Willard Gallery

single absolute! It is said that if a building shows its structure, it is functional, therefore beautiful. Or if it supports a shelter that conforms to the volume required by the process it shelters, it is automatically beautiful. Unfortunately a passionate faith in any of these absolute definitions gives no insurance for excellence in design. Architects, even as the scientists, must reject the idea of a single approach and a final absolute solution if they are to free themselves for happy progress.

It must be remembered that a building is the result of relating an almost infinite number of objectives and choices: the available resources in labor and material, the expected life of the building, the action and objects it is to shelter (function); a choice of the materials actually available; the exploitation of site; the challenge of the climate; the determination of desirable comfort value; the collaboration of painters and sculptors; the economics of building maintenance; social and psychological objectives; and all the other limiting and challenging factors one can think of.

Now, if it were possible to properly relate *all* the factors one should think of into a unity, we would probably achieve that organic architecture Frank Lloyd Wright talks of, and that perhaps is our ideal. For such an architecture would not be aimed at a universal absolute, but result in that variety we find in flowers and trees and every living thing. For each of these varies with the richness of its nourishment, the benevolence of its particular climate, the aggressiveness of its neighbors, the exigencies of its breeding — and in every one we discern beauty.

But history will probably never label the architecture of our time organic, because most of us are incapable of taking into account all the factors there are because we do not know them; others will not; and none of us is without a conscious mind and ego which inevitably stand in the way of the selfless action that results in rose and oak tree. The greatest beauty we create may occur when our men of genius intuitively grasp the short cut and create structures that synthesize factors more pedestrian minds could take a lifetime to rationalize. Nevertheless, it can be seen that to some extent all our buildings are relative architecture, and all our architects find themselves pleasantly in a position similar to that of the character who was surprised to find he had been speaking prose all his life. In design the architect reveals whether he is trying to tell a complete story or is content to illuminate an episode. There is no absolute that demands relating a building to everything, but how well a building relates to as many factors as possible is as fine a goal as can be set. Such an overall synthesis is certainly as good as taking delight in any single aspect of architecture, say structure, and emphasizing that. It is as if a man, setting out to cut a diamond, chooses whether to polish one facet or to form the whole gem.

Unfortunately, the architect today faces the most bewildering series of choices in history, just after throwing away the prop of continuing to repeat inherited forms. There are those who follow as closely as possible the mannerisms of a living master, but to copy a present fashion is no better than to copy a past one.

It is a time when it is easy to do something apparently smart and different. And the applause is great if the result is easily photographed, identified. Such recognition can make us forget that mannerisms and simplification by mere elimination are of much less importance than a good working plan for a building, its relation to its site, the excellence of its mechanical plant, its conspiracy with natural forces, the fact that its cost was within its budget, its concern and empathy for the client, and scores of other very relative realities that make a building a pleasant experience as well as a pretty object.

The satisfaction we find in the finished perfection of some that master elementary harmonies and the prom-

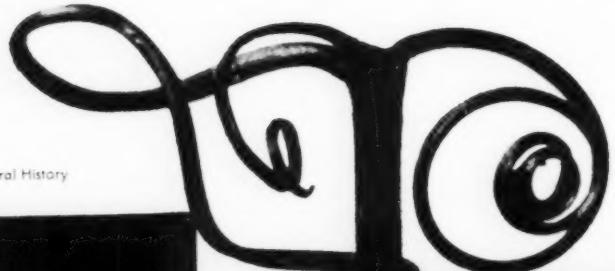
ise we see in other more complex, still imperfect, symphonies make this a most exciting era of architecture. For ours is not an age of maturity, of accepted style. It is a time for relating things, of experiment, of youthful enthusiasm, of much promise.

And, as Horatio Greenough said a century ago, "Beauty is . . . promise . . ."

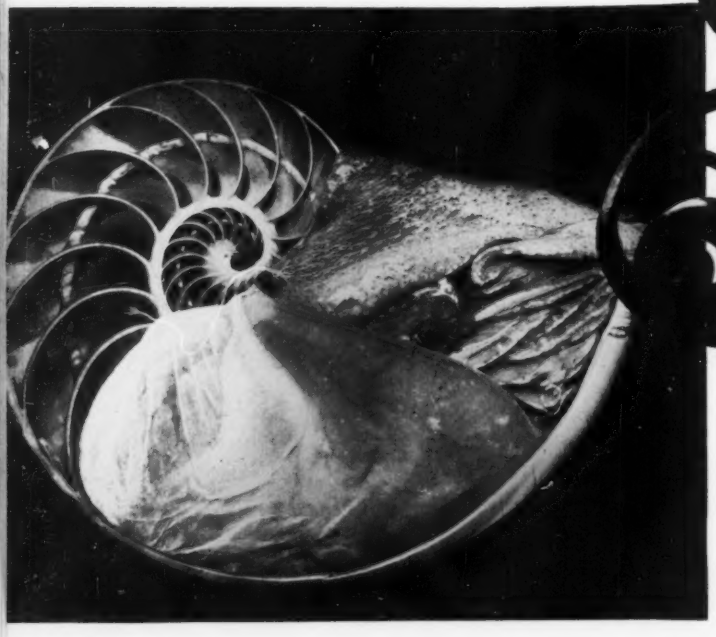
Our buildings inevitably tell our story, haltingly or beautifully. As a chorus they make an incoherent babel that reflects how little our whole society is in accord, but here and there is an architectural statement whose calmness and serenity bespeak a well adjusted designer who has used the full range of sound and made a building not talk, but sing with full chords. And when he does transcend a thin tinkling tune, it is because his heart was set on a song for many people, not a solo for himself.

"... architecture would ... result in that variety ..."

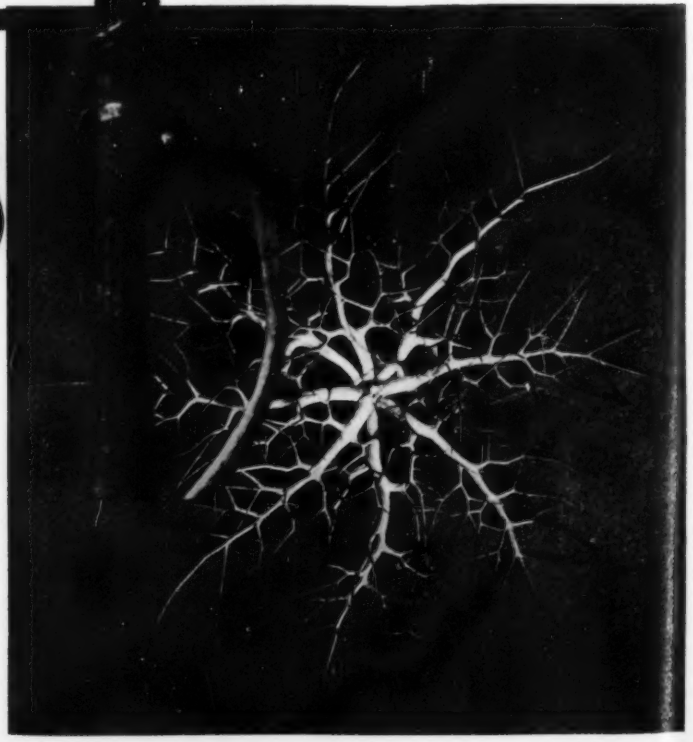
Quartz crystal, American Museum of Natural History

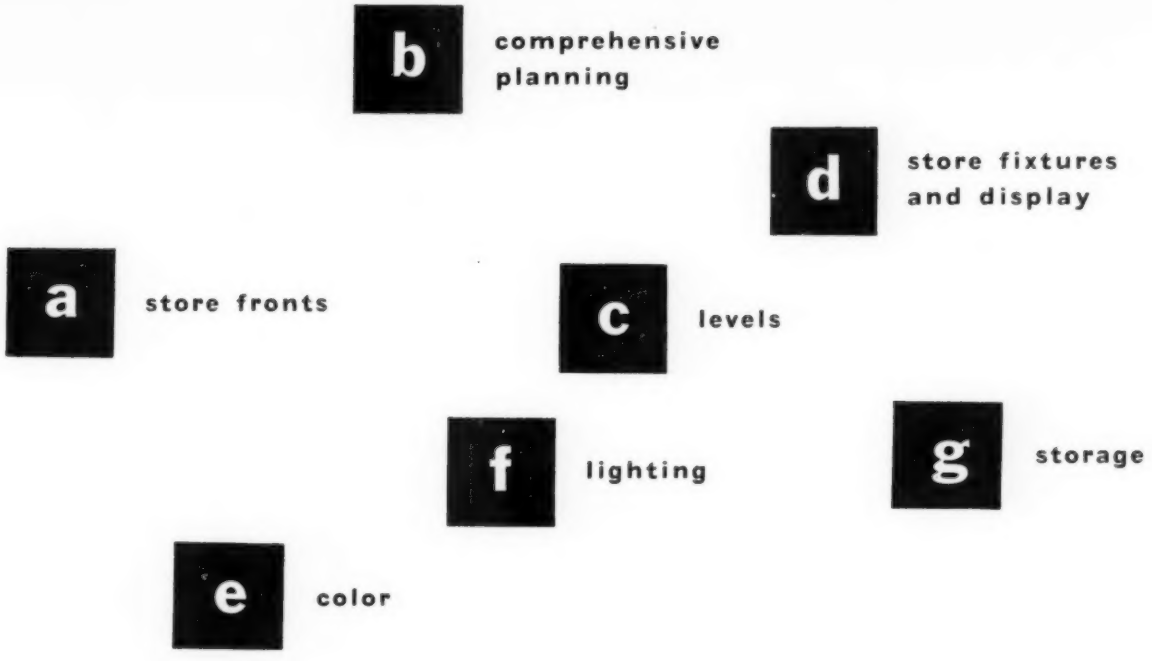


Pumpkin vine | Black caraway
from Wunder in der Natur, Karl Blossfelat



Chambered nautilus (cutaway), American Museum of Natural History





STORE DESIGN

ARCHITECTURAL RECORD'S BUILDING TYPES STUDY NUMBER 188

by Caleb Hornbostel, Architect

THE NEWEST RELAXATION in the basic construction order by the National Production Authority this month is expected to add much to stimulate the field of store construction. For this reason and also because store design has gone through a complete overhauling in the postwar years, now — the middle of 1952 — is a good time to view in retrospect what the trends, directions and innovations have been and where they may be going.

Starting with the store front, we can obviously see that the open front has become an accepted formula except in the few cases where a store by its very nature can afford the closed front type of design. The open front has raised a host of design problems which did not exist before, namely, reflection, sun glare and sun control, new methods of window display, artificial lighting both day and night, a general reorganization of merchandise within the completely exposed store, together with a new approach to the design of display fixtures and casework in general.

In comprehensive planning of stores the most important consideration is circulation of customer traffic within the store. In planning suburban stores, which exist by serving the car shopper, parking facilities have become one of the major design factors. Parking facilities within the city are also a primary factor, but the solution to this problem goes beyond the usual field of store design and enters into that of civic planning.

A freer handling of levels within stores is one of the newer trends in store planning.

The whole field of display and casework is still in a state of change. The tendency is toward complete flexibility of fixtures and display, with the result that the store is becoming more and more of a stage set which adjusts to seasons, sales volume and buying trends.

Color has become a useful tool in store design. The psychological effects of color and its integration with lighting and display are being closely studied at present, indicating more use of color in the future.

Perhaps the greatest strides and innovations have taken place in store lighting. Lighting has now become an integral part of all comprehensive planning. Not only has general interior lighting changed, but, with the open store front, day and night lighting throughout the store has also become very important. The store sign enters the lighting problem and it, too, must be integrated into the design as a whole.

In store design the internal business operation of the store itself demands integrated storage of stock. There are three accepted methods of approaching this problem: (1) self-selection, where the majority of stock is on the actual sales floor and only remote storage is necessary; (2) all stock is concealed; and (3) multiple types of storage — exposed stock in showcases with some concealed stock, and reserve stock adjacent to the selling area.

Each of these aspects of store design has been treated separately and includes the opinions of a number of architects active in the field.

Tom Ballinger

a store fronts

"THE STORE FRONT is the silent salesman working on the street 24 hours a day. It is newspaper advertising plastered across Main Street. Few indeed are the shops that are entered through a self-effacing door. These shops are the ones that have established a reputation for exclusiveness and customer selectivity which marks them as the extreme minority in the retail field. Mr. and Mrs. America and their children have been educated to shopping habits in which the store front plays a stellar role. Window shopping is probably the greatest single pastime of men, women and children throughout the country. Millions of dollars a year are spent on window display, and retailers today are much too canny to spend their money on anything which does not produce ample return on investment. To my mind, store fronts are the catalysts which turn window shoppers into customers and as such are a vital part of the retailer's selling equipment. As an architect who has spent many years in the store field, I feel that nothing contributes more to the quick and continued recognition of a retailing establishment by the public than the store front."

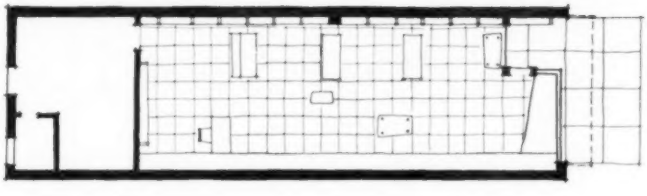
Morris Lapidus

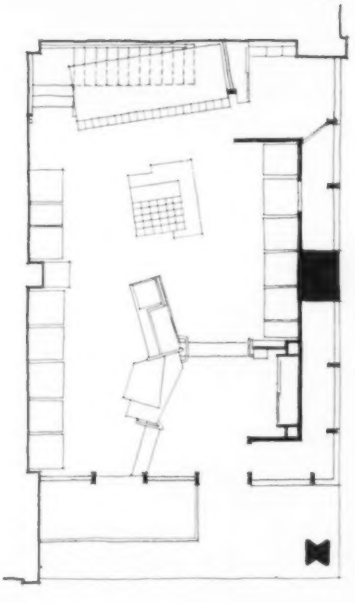
Roger Sturtevant

Above Thos Tenney Shop, Berkeley, Calif. Roger Lee, Architect

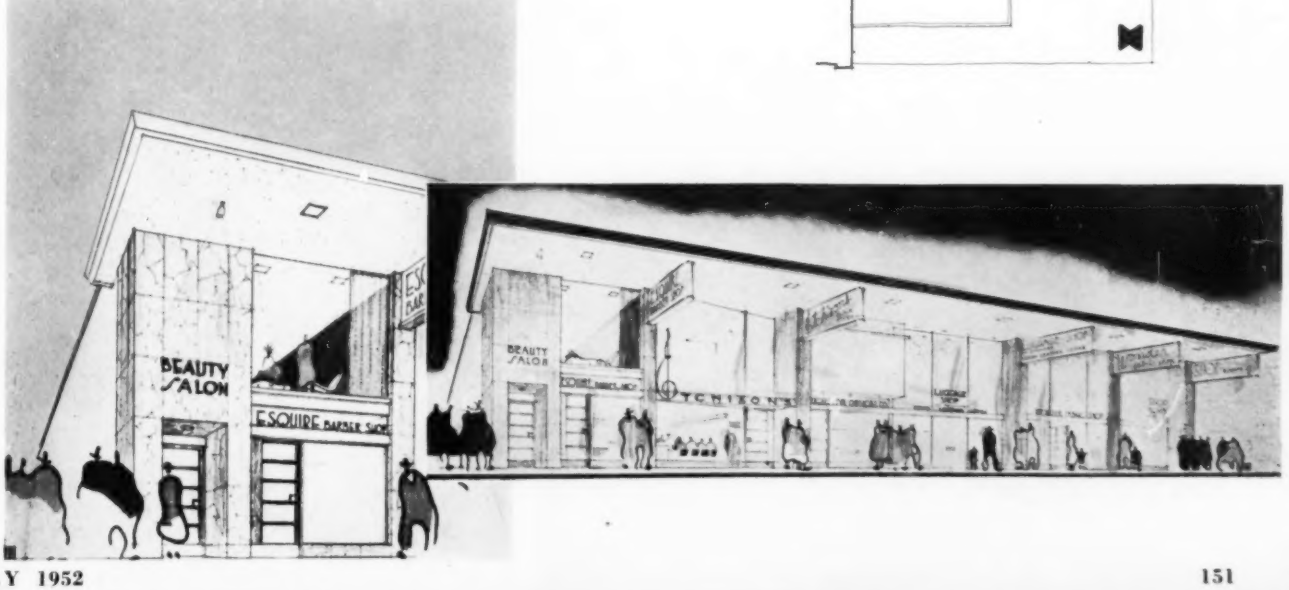
Courtesy of the Kawneer Co.

Gottscho-Schleisner





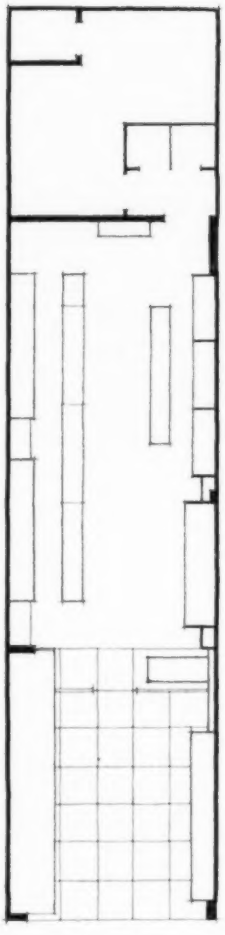
Above: The Little Shop, Niles, Mich., Ketcham, Giná & Sharp, Architects. Door set at right angle gives total glass front area for display. Right: plan and photo, Wally Frank Ltd., New York City, Morris Lapidus, Architect. Below: The Rusk Shop Building in Houston, Tex., by MacKie and Kamrath, Architects, is a successful design for unified store group



Roger Sturtevant

Cargoes Inc., San Francisco, Calif.; Skidmore, Owings & Merrill, Architects, John L. King, Partner in charge, Don R. Knorr, Designer

The store itself acts as a showcase: its entire contents are the window display. Color and simple baffle walls are cleverly used to subdivide the space into various departments, yet allow the windowshopper to see into almost the full depth of the store. Yellow, a soft brown and orange-red predominate. Each color is used in relation to the merchandise which will be displayed against it. The photo to the right shows an interesting use of stock light fixtures. The casework is noteworthy for simplicity of design



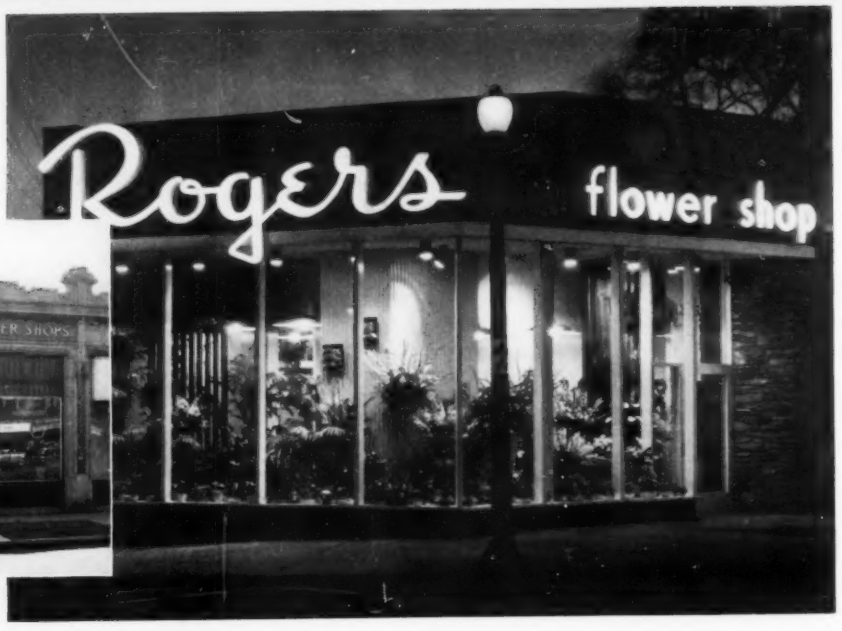
Robert C. Cleveland

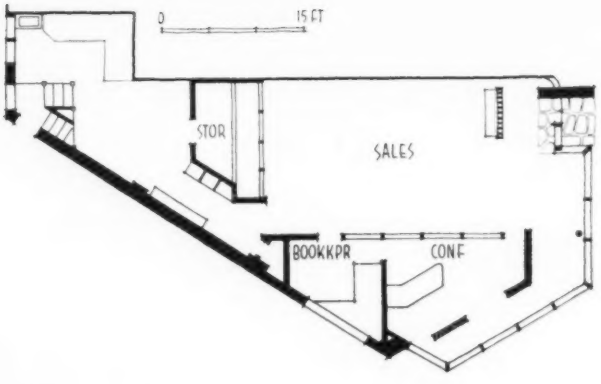
Above: Renee's Flower Shop, Beverly Hills, Calif.; Paul R. Williams, Architect, Robert Kliegman, Associate Architect. Overhang shades front, controls glare. Outdoor planting boxes help identify shop

Below: Dabby Shop, New York, N. Y., Seymour R. Joseph, Architect. Display cases along sides of deeply set-in entrance lead passerby into store (see plan, left)

Ben Schnall

George M. Cushing, Jr.

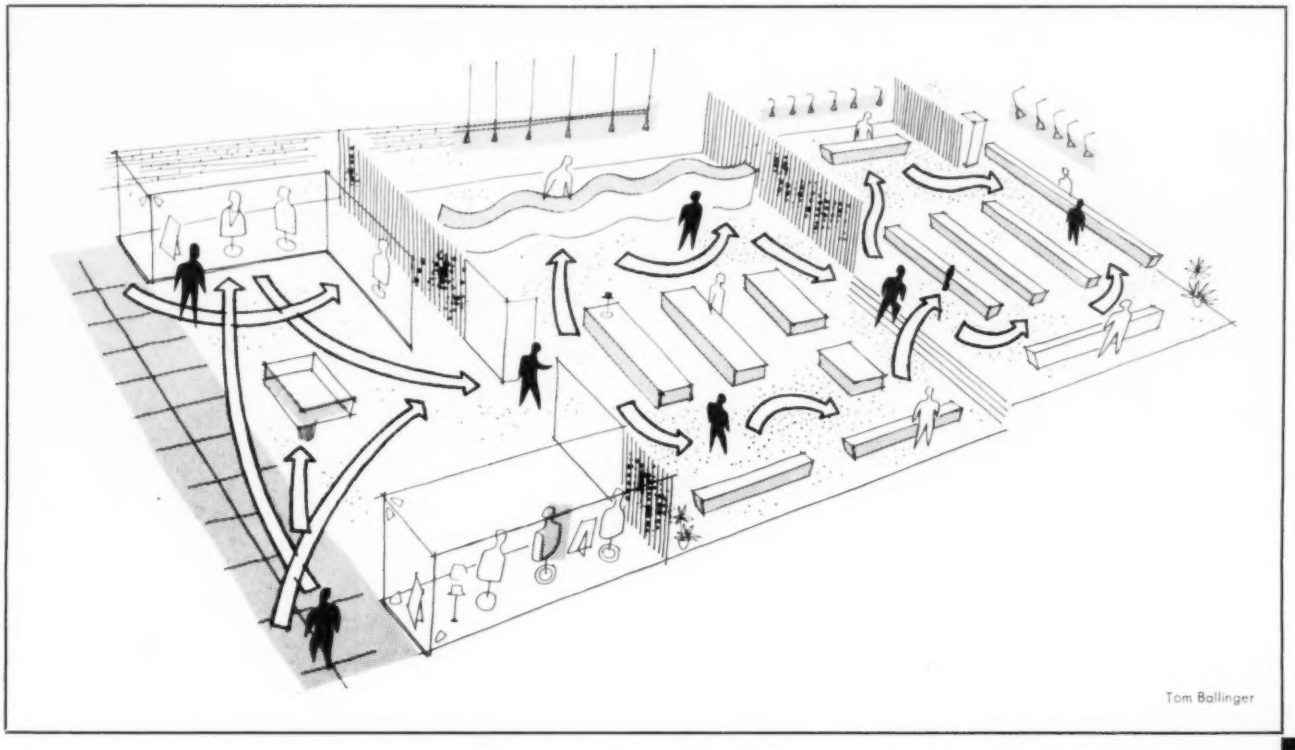




Above: Rogers Flower Shop, Brookline, Mass.; William Riseman Associates, Designers. Alteration opens up shop, gives identity

George M. Cushing, Jr.

E. A. Conrad Co., Beverley, Mass.; Constantin A. Pertzoff and Louisa V. Conrad, Associated Architects. Shop serves two age groups, each with separate sales areas. Slanting bay windows reduce sky reflection



Tom Ballinger

b

comprehensive planning

Circulation

Departmental organization

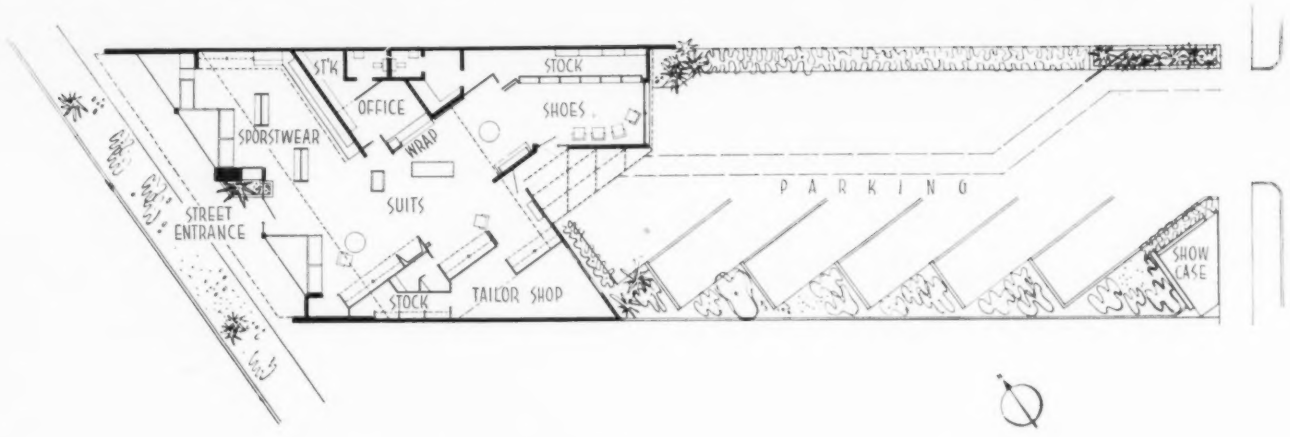
Parking facilities

"The first step in comprehensive planning for small stores is setting up a program of overall requirements. This requires all the steps of research, survey and planning skill that one uses in programing the design of any complicated public project and consists of: a study of the needs, habits and buying potential of the public in the area; the ratio of dollar volume of yearly business to sales area to be occupied by various types of merchandise within the store; and, finally, the business background, philosophy and aptitude of the merchant who is to operate the store. The architect can then begin to intelligently plan the store and to interpret this data into proper area and volume allocations of the store. He must also provide for non-selling functions which are essential to proper customer service, comfort and store operation. This includes proper control of interior lighting and temperature. The last step is to promulgate a final layout for the store, based on a certain degree of flexibility in the plan and fixture details to provide for changes in buying trends, population shifts and other unpredictable factors which may affect business."

Daniel Schwartzman

"The most important factor in the existence of the suburban store and the one probably most closely related to sales is more and better parking facilities. Indeed, a new suburban store which does not provide these is extremely vulnerable to present and future competition and therefore represents a poor investment. Here are some criteria of what constitutes ample and convenient parking: a sufficient number of parking stalls as related to expected shopping volume rather than area of the store. It can be roughly estimated that one parking stall should be provided for a business volume of $8,000 to $12,000. Self parking shall be easy; angle parking is preferable. Parking stalls shall be of ample width and depth so that car doors can be opened and merchandise stored without hitting the neighboring car. Parking lots shall be well surfaced, clearly marked and well lit for night business. Landscaping and trees should be introduced to avoid a bleak appearance; these shall be well curbed or raised. Service traffic (deliveries, garbage collection) shall be strictly separated physically and visually from customer areas. Parking should be free."

Victor Gruen



Stan Hall, Los Angeles, Calif.; Victor Gruen Associates, Architects, Rudi Baumfeld, Designer

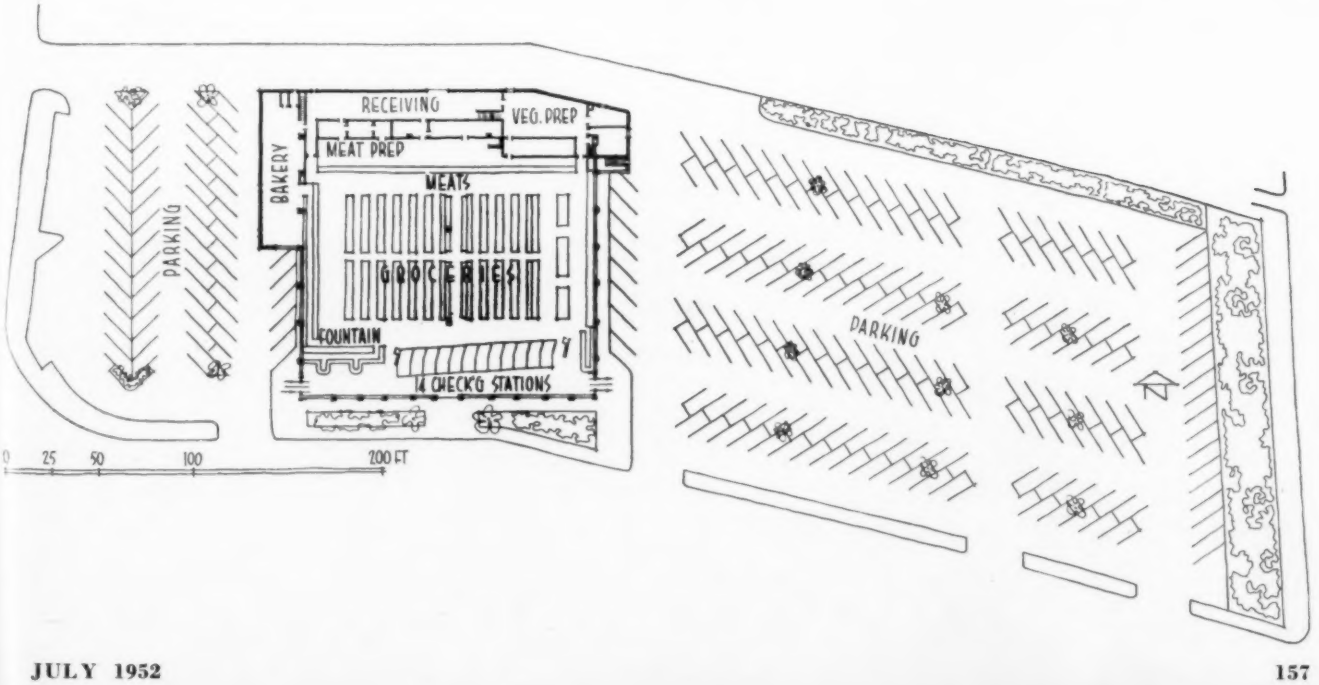
Store layout uses full depth of irregularly shaped city block. It fronts on both streets, with parking lot entrance as important as sidewalk entrance. Interior circulation is controlled by clever use of baffling

Garber Sturges

Bettendorf's Market, Clayton, Mo.; Kenneth E. Wishmeyer, Architect

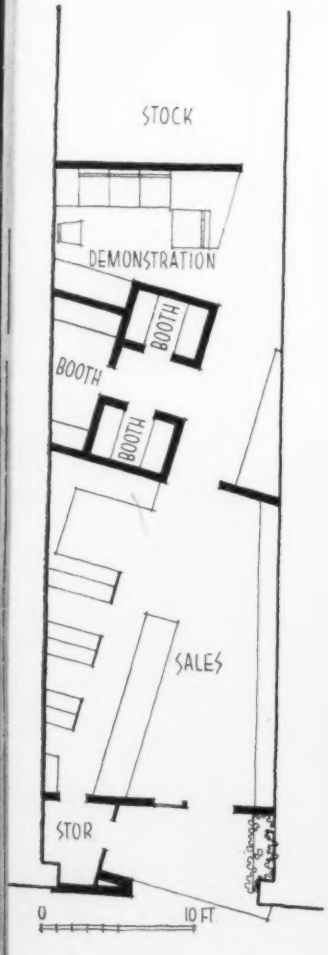
This supermarket with front and side parking features clear spans, clean-looking sanitary materials, incandescent lighting, summer or winter ventilation, well proportioned interiors. Noise control, ease of maintenance, pleasing color are other plus items. Materials handling was a prime design consideration

Arteaga Photos



Roger Sturtevant

DIAGONAL WALLS CONTROL INTERNAL CIRCULATION

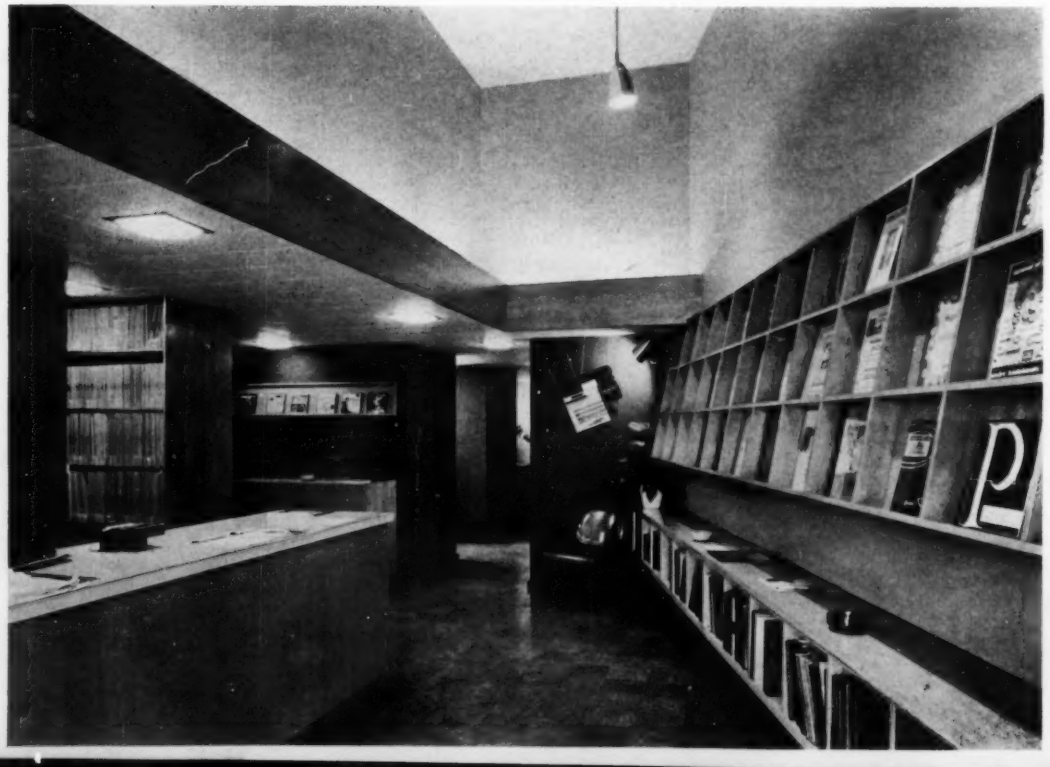


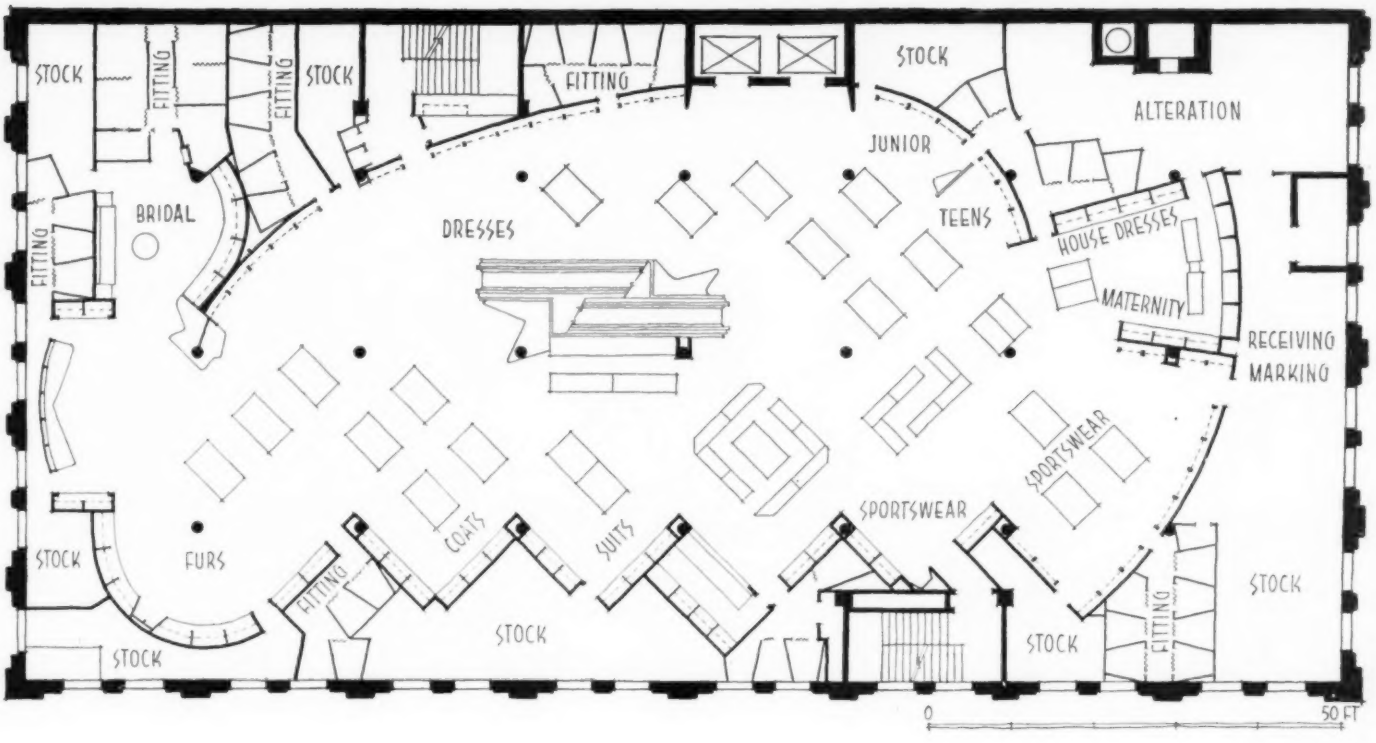
Thos. Tenney, Music on Records

Berkeley, Calif.

Roger Lee, Architect

INTERNAL space is quite confined in width as well as depth, yet the architect handled the space so cleverly that the customer is not aware that it is really very small. Location of the LP record rack opposite the listening booths makes for easy customer selection. Use of acoustical material on both ceiling and floor add to customer comfort. In the demonstration room at the back, a customer can relax and listen to various combinations of equipment and recording devices.





MERCHANDISING SEQUENCE DETERMINES LAYOUT

THIS PLAN SHOWS, to quote the architect, a logical sequence of customer traffic, starting near the highest traffic area with merchandise that has quick appeal, high unit profit and fast turnover and is bought on *impulse*, then proceeding with location of other merchandise lending itself to related selling or logical association, then to areas which ordinarily get the least traffic and to merchandise which is scarce or staple and therefore is bought on *demand*.

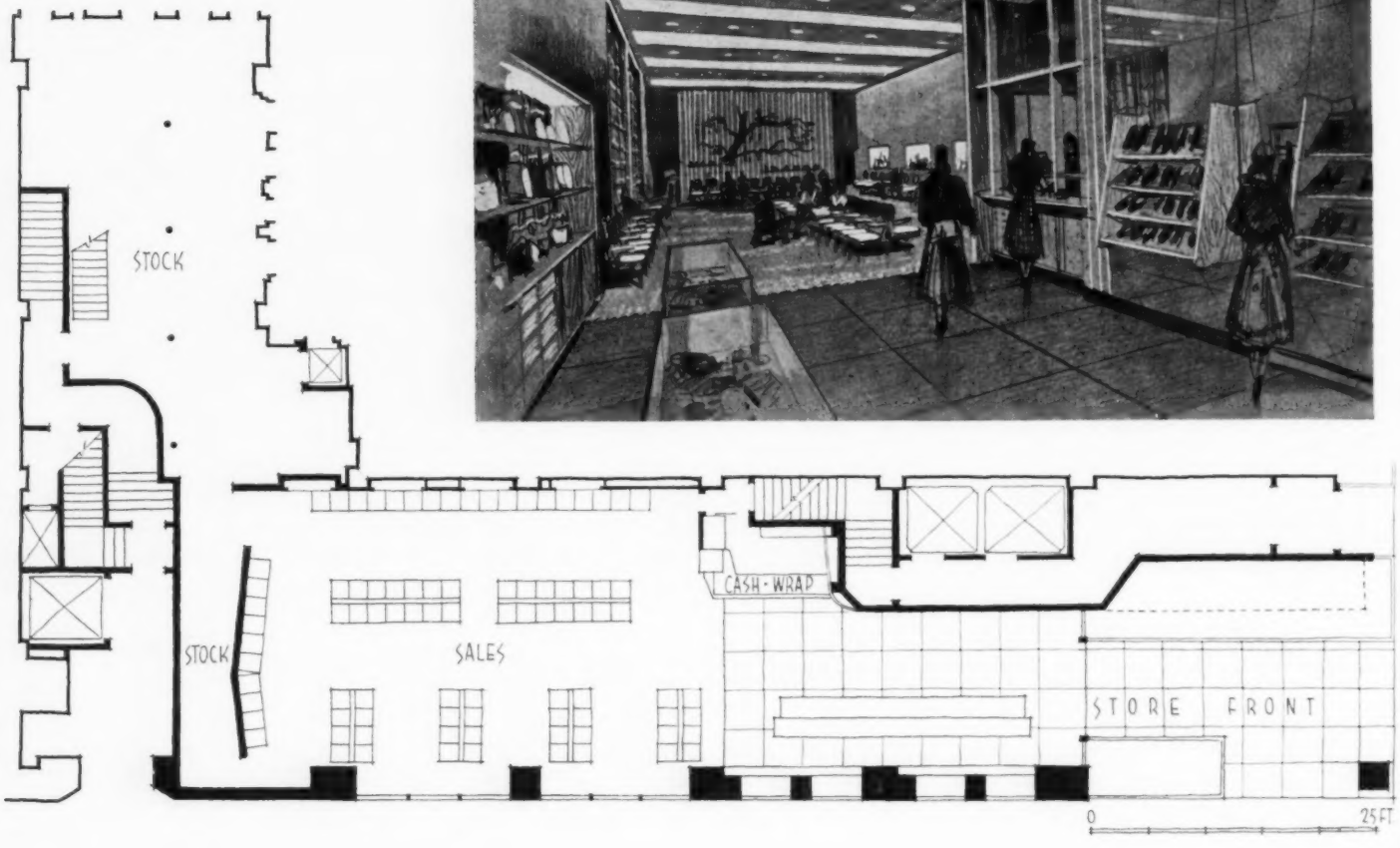
Trask, Prescott and Richardson

Erie, Pa.

Daniel Schwartzman, Architect

Meyers and Krider, Associated Architects

David Royter



View from men's shop shows full depth of store. Floor racks of black wrought iron repeat design of other fixtures. Wall paneling is of juanacosta, floor is brick and tile. Color scheme is blue, cocoa brown and beige

A SIMPLE FLEXIBLE LAYOUT

Miles Shoes, New York, N. Y.
Furno and Harrison, Architects

THE PROBLEM was to not discourage low income sales by an overplush interior. The floor plan features three areas — display in store front area, intermediate area for accessories and impulse buying, and main sales area. Stock is kept off to one side, the entrance to it concealed by a decorative baffle wall in the rear. Mirrors increase the apparent width of the front area. Flexibility is the keynote of both sales areas. Lighting and cases hanging on mirror wall are interesting details.

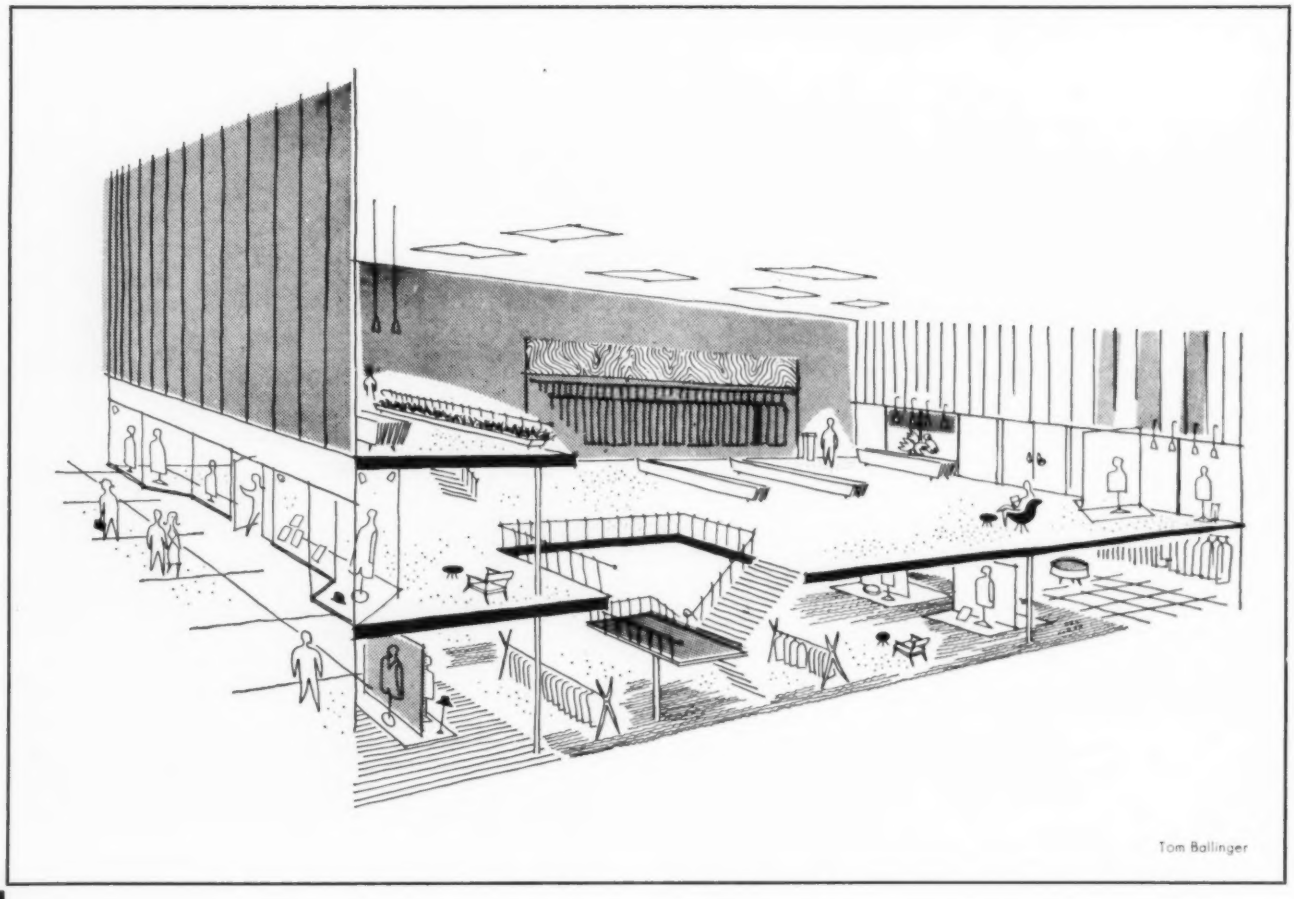
Above: women's department is carpeted; fixtures are pastel woods rather than wrought iron, and colors, including yellow and turquoise, are more feminine than in the men's department

STORE WITH TWO ENTRANCES

Foreman and Clark, Los Angeles, Calif.
Welton Becket and Associates, Architects

SEPARATE men's and women's départments are incorporated within the confines of a narrow rectangular site. Both entrances, one on Wilshire Boulevard and the other opening onto the parking lot, are given equal importance. The store is divided in the center by dressing rooms and executive offices. Distinction between men's and women's departments is further emphasized by using different decorative and color schemes. Area limitations are circumvented by an open merchandising plan. Floating racks of stainless steel suspended from the ceiling by wrought iron members, floor racks, and egg-crate counter fixtures are all light in design to increase feeling of space.

Julius Shulman



Tom Ballinger

C levels

"VARIED sales floor levels represent an opportunity — not a handicap — to the store planner. He can use them to lead customer attention and customer traffic, by easy stages, from one selling level to another. Varied sales levels are thus visually integrated with one another, and, at the same time, stairways can take the place of elevators and escalators, thus lowering both initial cost and maintenance."

Morris Ketchum, Jr.

"EVEN in supermarkets, where single level operations, other than help's lockers and toilets, restrooms, boiler rooms, compressor rooms and similar units of this type, are the most efficient and inexpensive when site adequacy permits, there are many successful (financially) examples of two-level operations."

Kenneth Wishmeyer

Below: Balch Price Store, Brooklyn, N. Y.
José A. Fernandez, Architect

Gottscho-Schleisner

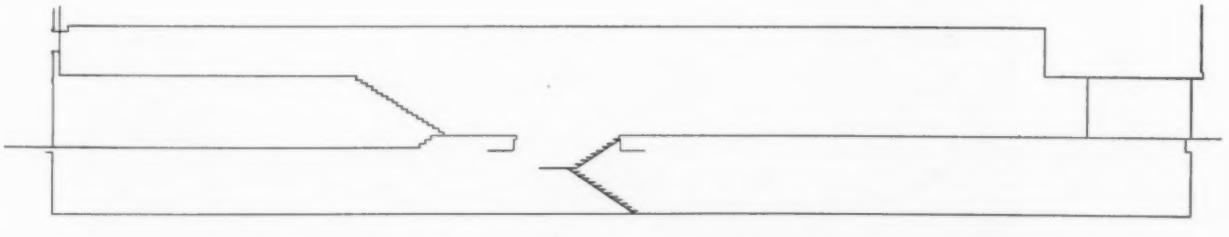
Lionel Freedman

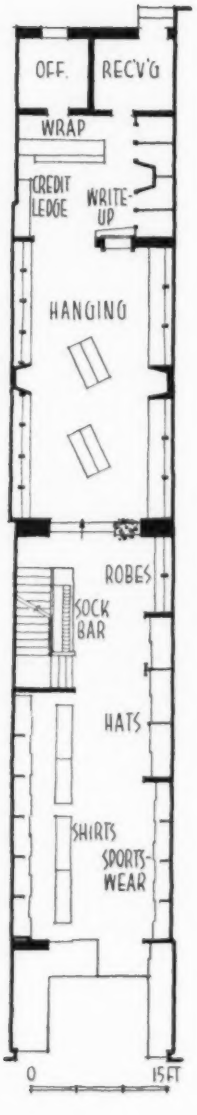
NEW TRENDS IN THE USE OF LEVELS

Wallach's, Jamaica, N. Y.
Ketchum, Giná & Sharp, Architects

EXPLORING THE DESIGN POSSIBILITIES inherent in levels presents a new challenge to the imagination and skill of the store architect. A shift in levels by a short flight of stairs has been used quite often in specialty shops and many types of retail stores to set off demonstration areas, accentuate departmental layout and highlight settings for special sales appeal. Now the true multi-level plan is becoming increasingly popular in all types of stores, including the suburban store and even the supermarket, which ordinarily is considered as a one-level operation. This trend toward levels in suburban stores and shopping centers is encouraged by the need to increase parking space in relation to shopping area. Thus, multi-level parking with direct entrances to various store levels is being introduced in some of the newer shopping centers.

Wallach's, above, is an outstanding example of multi-level design in which levels expand and segregate sales areas, yet also give a feeling of overall unity and allow the customer to see all the merchandise in the store.



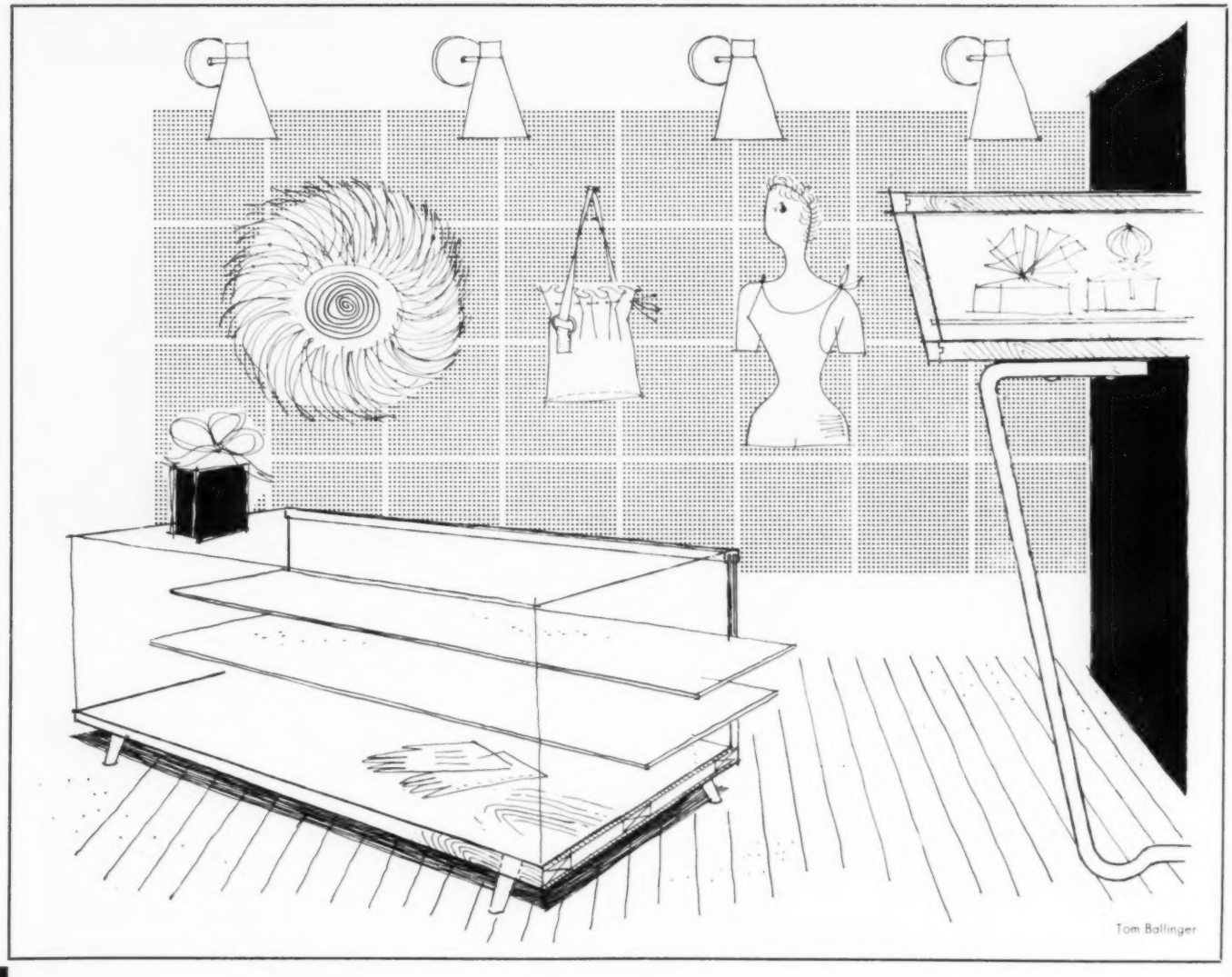


DESIGN EMPHASIS ON LEVELS

George & Lester's, Racine, Wis.
Morris Lapidus, Architect

THE DESIGN of the store front dramatizes both levels. The staircase, which leads to fitting rooms and space for future expansion, instead of being unobtrusive, is a dominant feature of the interior. The suit department in the rear of the store is raised slightly and a soffit is introduced to create a clearcut space division and a more intimate sales atmosphere. A fireplace and controlled lighting in this area heighten the personal effect desired by the owner.

Hedrich-Blessing



Tom Ballinger

d store fixtures and display

"FIXTURES are designed solely to display and sell consumer goods. They are a part of whatever atmosphere the architect is endeavoring to create and should never overpower the customer. Fixtures should be integrated as well as possible with the structure and lighting. In fact, the fixture work often *is* the store architecture and should be as unobtrusive as good architecture."

Daniel Laitin

". . . and 'What is the best possible fixture design for any specific purpose?' The answer is, 'No fixtures at all.' In other words, the ideal is to maintain merchandise at the proper levels for inspection and handling without the aid of the present opaque, perishable and expensive fixturing methods. Most designers are now working toward that goal and doing everything possible to eliminate the bulkiness and insistent appearance of their fixtures."

Daniel Schwartzman

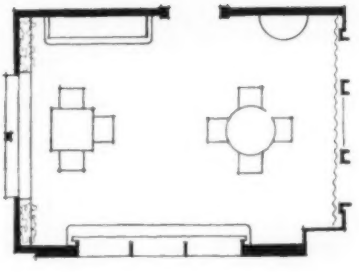
Victor Laczi

Record Shop, Pittsburgh, Pa.
John Schurko, Architect

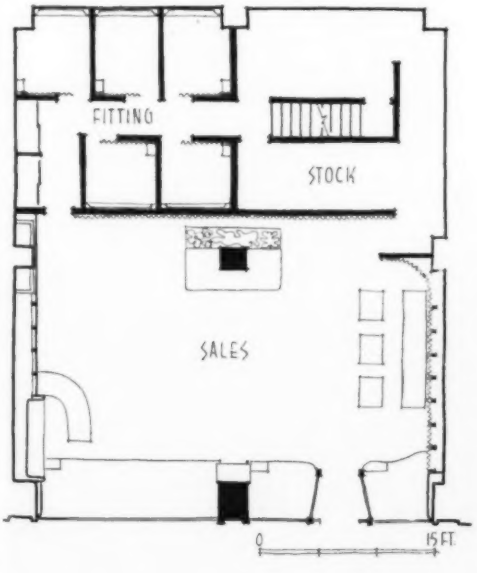
Hugh Stern

WHOLESALE DISPLAY—SALES ROOM

Cobblers of California, New York, N. Y.
Gerhard E. Karplus, Architect



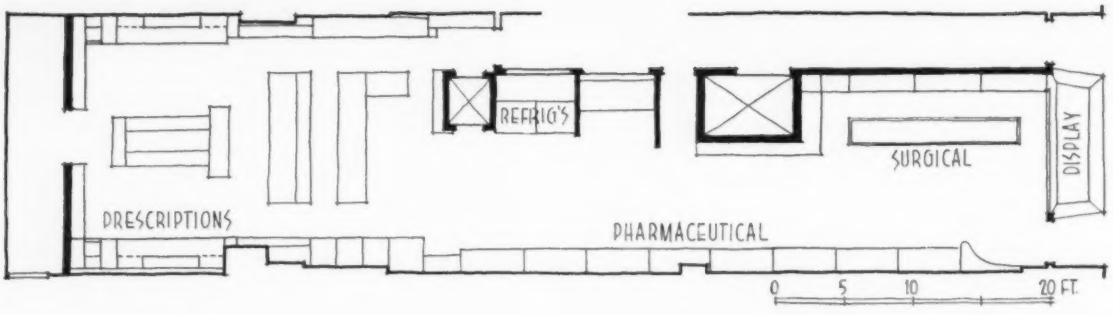
THE PROBLEM HERE is simple, quick-to-grasp display of the entire available stock in cases where it is accessible for examination by the buyers. This scheme is also adaptable for retail shoe display and sales in a limited area in a small store.



Dana Festive Fashions, New York, N. Y.
Ketchum, Giná & Sharp, Architects

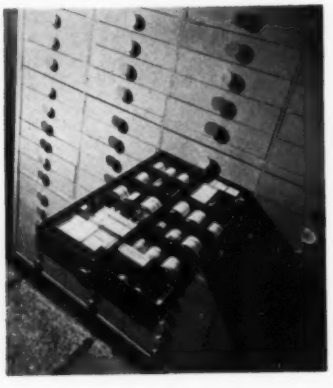
Focal point in this Madison Avenue dress shop is the casual, easily changed display area. Background colors are neutral to show off merchandise

Salvatore C. Valastro

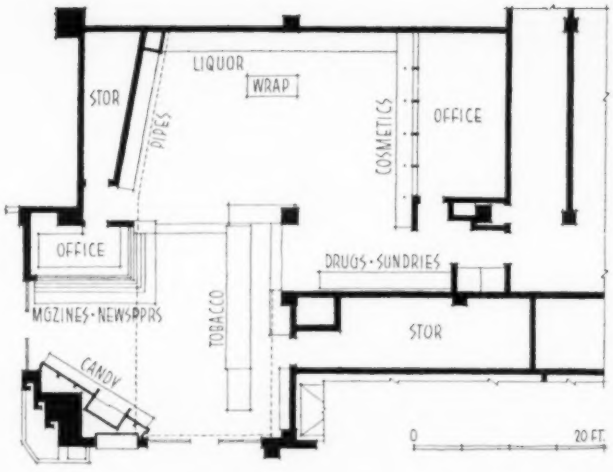


William Radoff Pharmacy,
New York, N. Y.
Seymour R. Joseph, Architect

In an ethical pharmacy, design is much more functional, unadorned and, in this case, handsome. Flexibility in its usual sense is not important. The result is a logical plan, cleancut handling of fixtures, especially in the prescription department (below left). Drawers and display cases are tailored to fit special items of fairly constant stock.



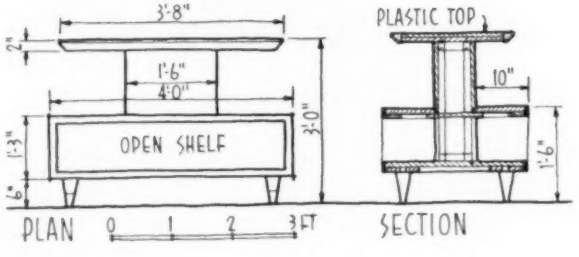
Ben Schnall



Bercu's Tobacco Shop, Los Angeles, Calif.
Welton Becket and Associates, Architect

Custom fixtures for smoker's needs include walk-in glass humidor for imported cigars and counters for cigars, cigarettes, candy, dry drugs, magazines and liquor

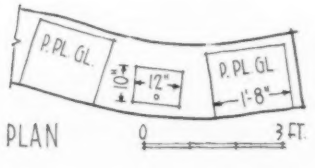
Julius Shulman

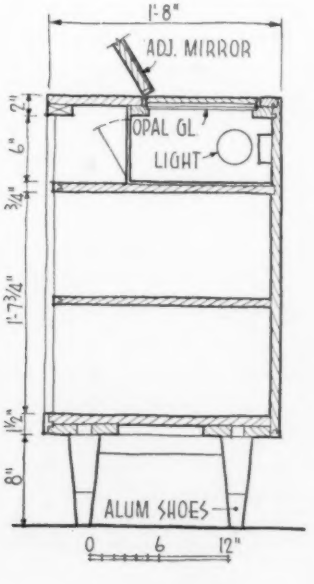


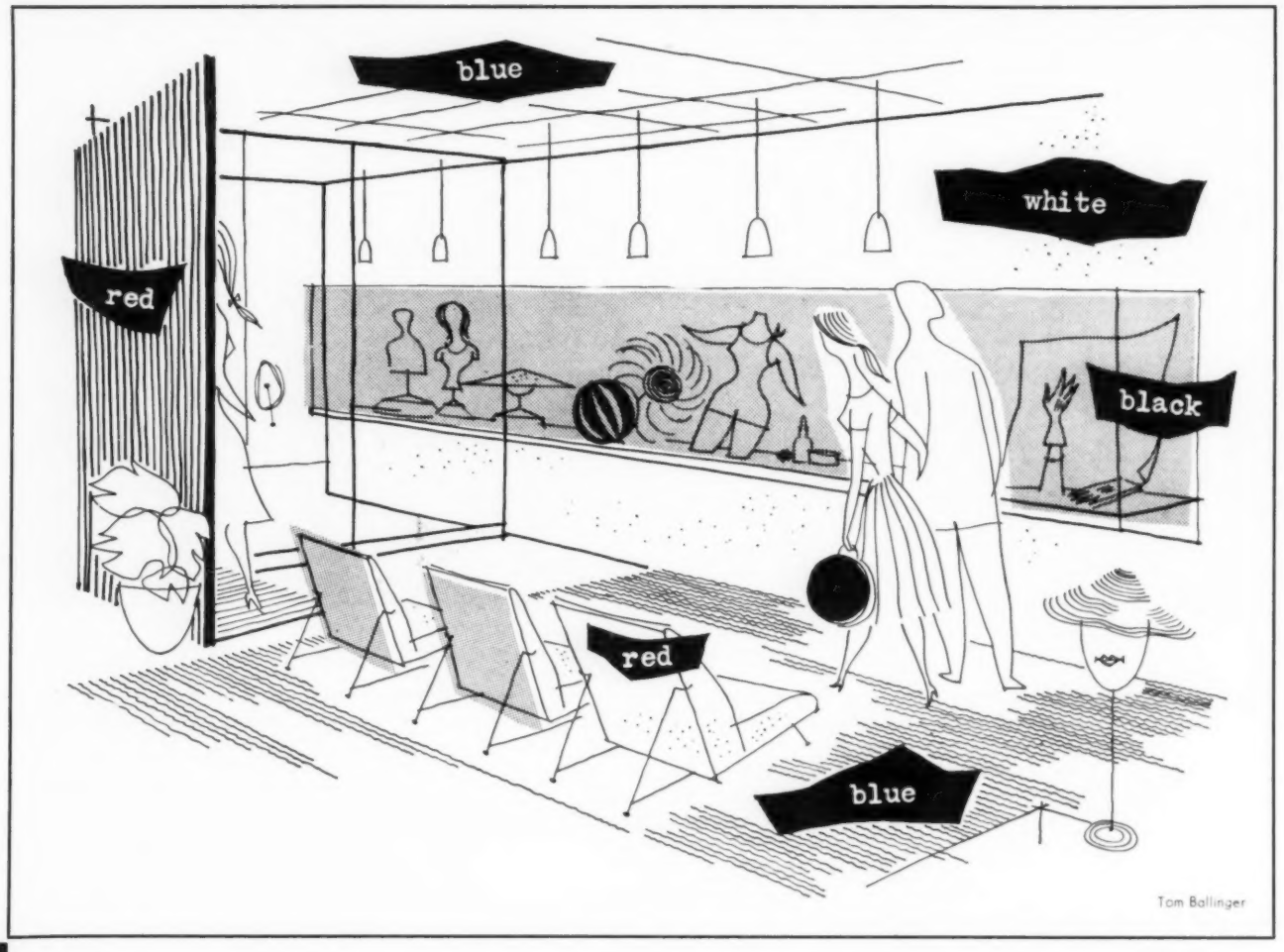
Dorothea Pharmacy, Mt. Vernon, N. Y.
Daniel Laitin, Architect

Left: Detail of center island counters for sundry impulse-buying items. Below: Detail of cosmetic unit with lift-up mirror located in serpentine counter at left of photograph

Lionel Freedman







Tom Ballinger

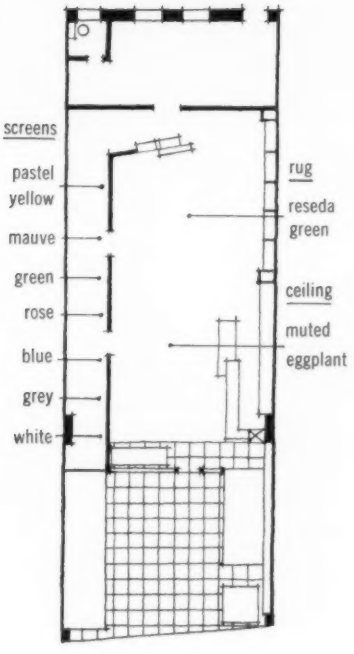
e color

"More can be accomplished with color and much more color can be used in the store than is generally realized. But its full use requires taste, skill and experimentation. There are really no hard and fast rules except that vivid colors are unsuitable on areas where they might detract from the goods, but can be used in combination with brilliant lighting to draw attention to merchandise on special display. Of course, the store colors should always suit the type of merchandise sold. For example, millinery requires a somewhat monotone background, jewelry a muted background, men's clothing a dignified and, shall we say, soothing background. Whatever colors are used, they should never at any time be more important than the goods on display. Color can also be very useful in modifying undesirable architectural features which cannot be otherwise corrected. The long narrow store can appear much wider by the careful use of color. Different, harmonizing or blending colors can be used for identifying and separating adjacent departments in the store. In general, we can expect from color in the store the results we are now obtaining in the home."

José A. Fernandez

Oppenheim Collins, Huntington, N. Y.
Adolph Novak, Architect

Ben Schnall

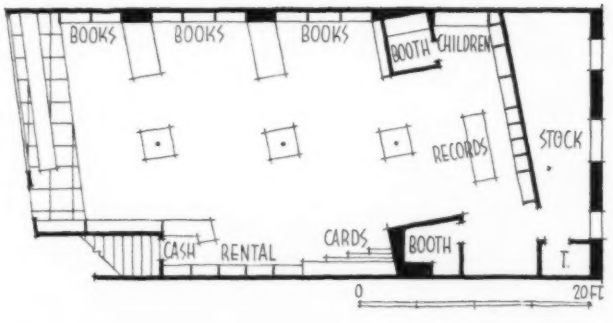


Screens, painted seven harmonizing colors and supported by floor-to-ceiling black metal rods, partially hide stock

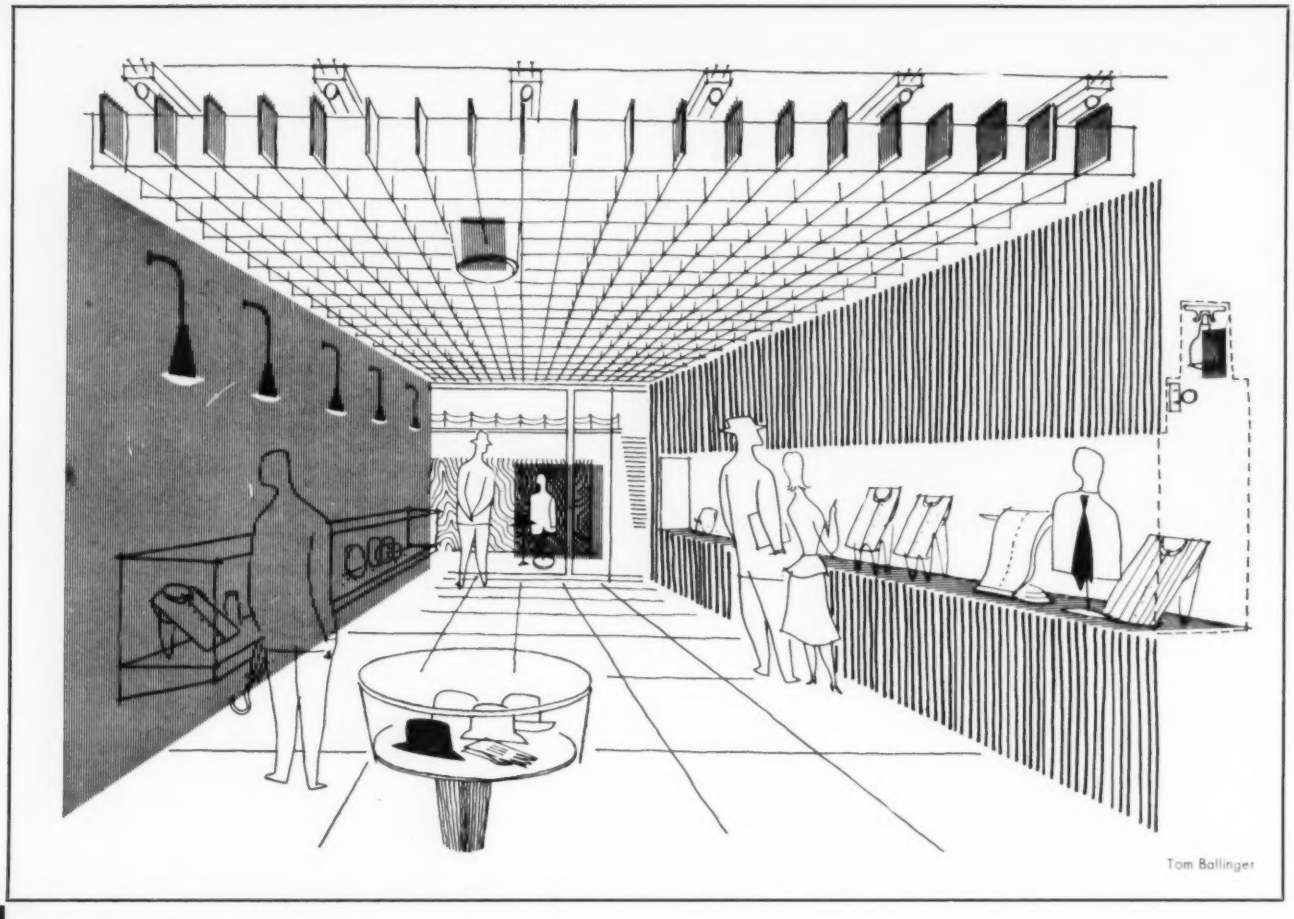
TWO COLOR SCHEMES FOR STORES

Above: Golub's Shoe Store, Bronx, N. Y.
Below: Mary Elizabeth Shop, Pelham, N. Y.
José A. Fernandez, Architect

WARM colors are used in entrance to store below, cool ones in interior as non-distracting background for stock. Street door and ceiling of front display area are of mahogany, sign is dark green, floor is green terrazzo, long display shelf and other small ones are hung from poles of four different colors. Inside, floor is gray and dark green, checkerboard walls and wood moldings are off-white, horizontal-grain panels are blue-gray, directional signs are dark blue-green.



Gottscho-Schleisner



Tom Ballinger

f

store lighting

"STORES in the past few years have stepped up their general lighting level to five or six times the prewar intensities. This shows that they are aware of the selling power of light. But, in using this new selling tool, they have created a sea of light which is also a sea of monotony. What is lacking is not the engineering know-how, but the taste and skill of the designer. Lighting, like any other creative effort, must be interesting. To achieve this, it must be used with due consideration to contrast, perspective and color as well as foot candle power. In other words, there must be design as well as engineering."

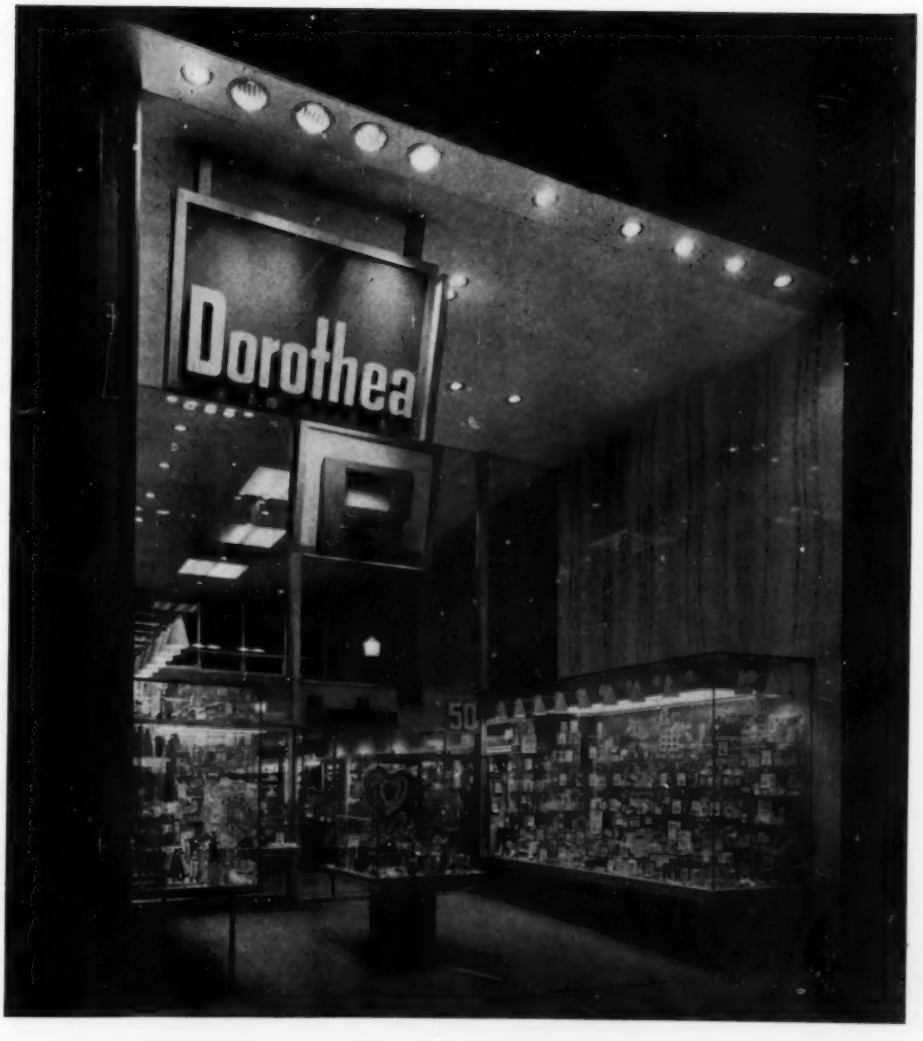
Abe Feder
Lighting Consultant

Ben Schnall

Dabby Shop, New York, N. Y.
Seymour Joseph, Architect

Jacob Stelman

Lionel Freedman

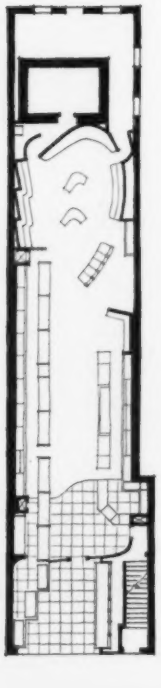


Above: Ansonia Shoes, Philadelphia, Pa. José A. Fernandez, Architect, and the Ballinger Co., Associated Architects. Sign is of aluminum with concealed white fluorescent tubing which reflects on polished granite surface to give striking effect. Arcade type front continues lighting design of interior. Note ceiling illumination glass panels, set flush, and use of incandescent spots

Below: Dorothea Pharmacy, Mt. Vernon, N. Y.; Daniel Laitin, Architect. Store sign and front are carefully integrated into lighting design. Sign is of porcelain enamel, in two parts. Top part, a little in front of bottom one, is lit by spotlights in store front frame; attached to back of this sign are spotlights for lower sign *(see interior photograph on page 175)*

Ben Schnall

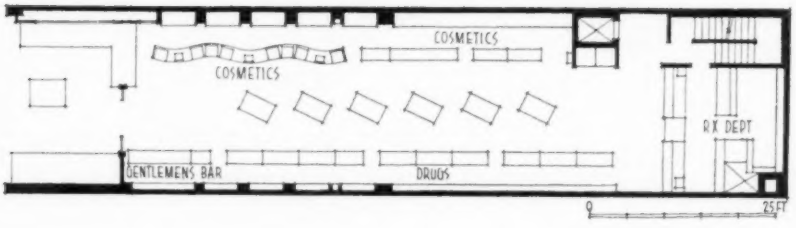
Above: Pelham Pharmacy, Pelham, N. Y. Joseph and Vladeck, Architects. Below: Photo Art Shop, Trenton, N. J. José A. Fernandez, Architect



Directional lighting through incandescent spots over counter, also goose-neck reflectors over picture display on right wall and over book display case

Roger Sturtevant

Cargoes, Inc (above) is interesting contrast in lighting approach, with single spotlighted letter as only identifying sign on this stage-set type of store without conventional display

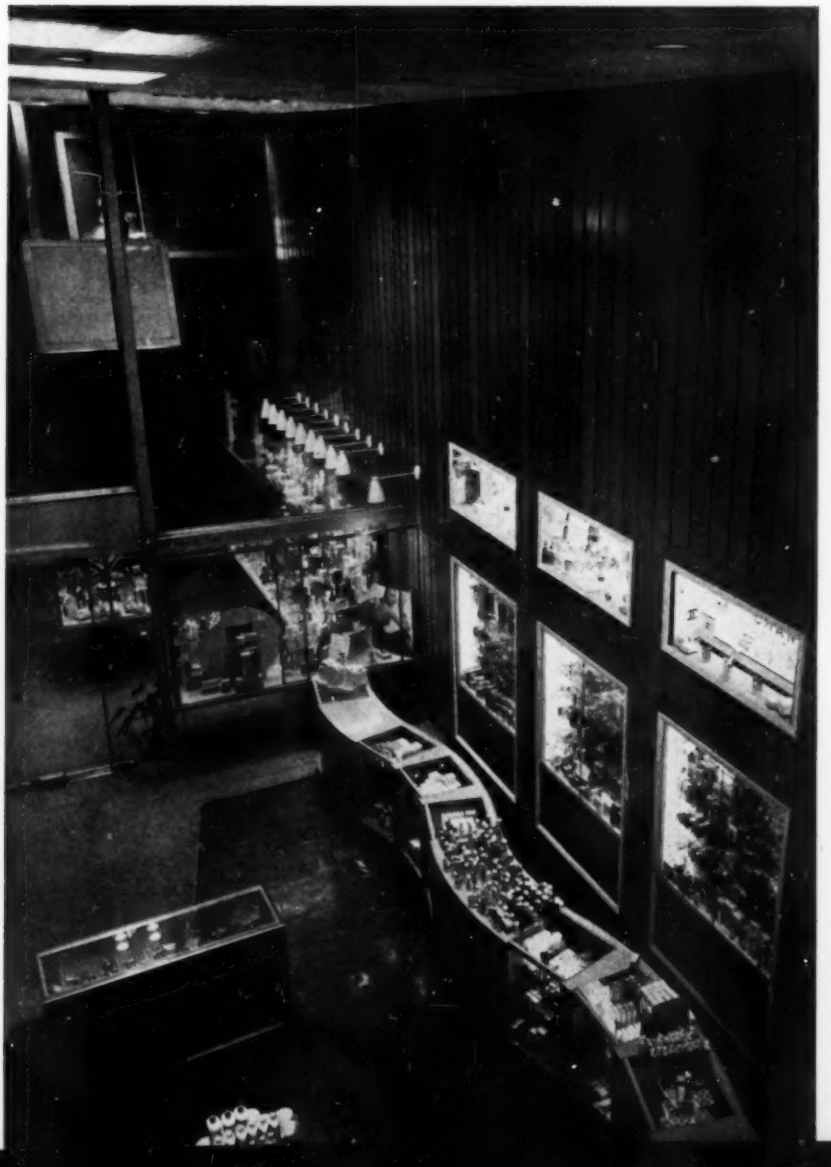


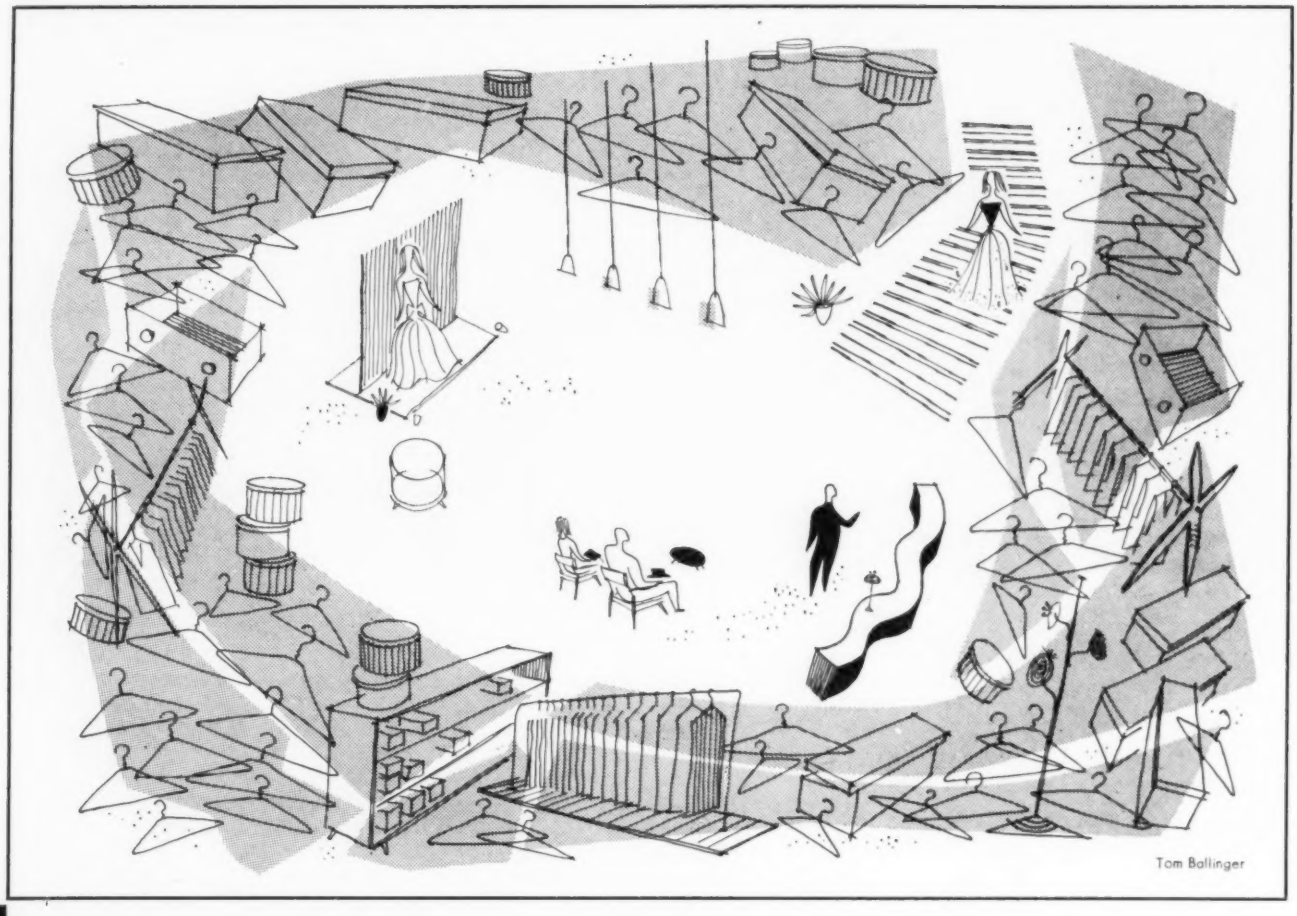
Below: Dorothea Pharmacy, Mt. Vernon, N. Y. Daniel Laitin, Architect. Plan above of general layout indicates diverse lighting problems of pharmacy with much display and many types of lighting

Lionel Freedman

Clothcho-Schleiner

Above: Detail of interior lighting of Photo Art Shop. Note neat appearance of fixtures





Tom Ballinger

g storage

"STORAGE can be broken down into three classifications — (1) direct selling storage, (2) forward storage, which would include stock rooms directly back of the selling fixtures and perimeter stock areas, and (3) bulk and general storage, which would include the balance of all merchandise necessary to store operation in general. The bulk storage should be adjacent to receiving and marking areas and directly connected to selling departments; it should also be provided with adequate vertical transportation whenever necessary."

Alvin L. Weidt

DIRECT selling storage includes both *exposed* stock in showcases, on countertops, in open shelving or hanging on racks, and *concealed* stock in showcases, counters, drawers and behind cabinet doors. Some of the many techniques of combining these types of storage are shown in the following photographs, ranging from no storage at all, with the entire merchandise exposed for customer selection, to storage in hidden stock areas of all stock except that on display.

Ben Schnall

Dabby Shop, New York, N. Y.
Seymour R. Joseph, Architect

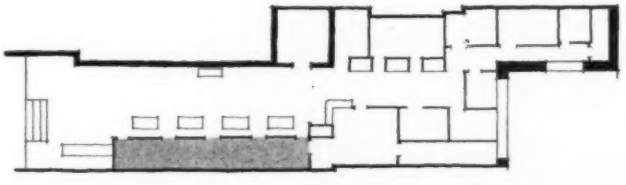
1

2

1. *Spear's, Pittsburgh, Pa., John Schurko, Designer*
2. *Foreman and Clark, Los Angeles, Calif., Welton Becket and Associates, Architects*
3. *Corsetorium, New York, N. Y., José A. Fernandez, Architect*
4. *Armstrong's, Cedar Rapids, Iowa, Alvin L. Weidt, Architect*
5. *Bercu Tobacco Shop, Los Angeles, Calif., Welton Becket and Associates, Architects*

PHOTOGRAPHERS

1. Rembrandt Studios
2. Julius Shulman
3. Gottscho-Schleisner
4. Vern Thompson
5. Julius Shulman



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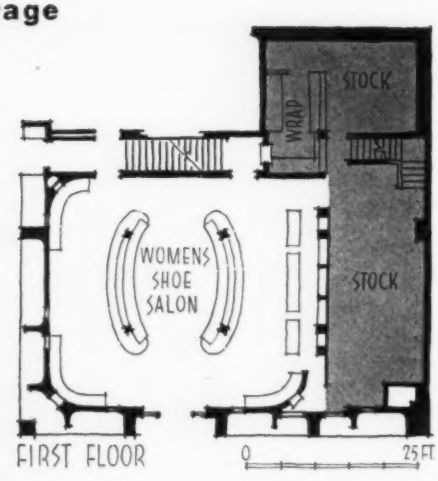
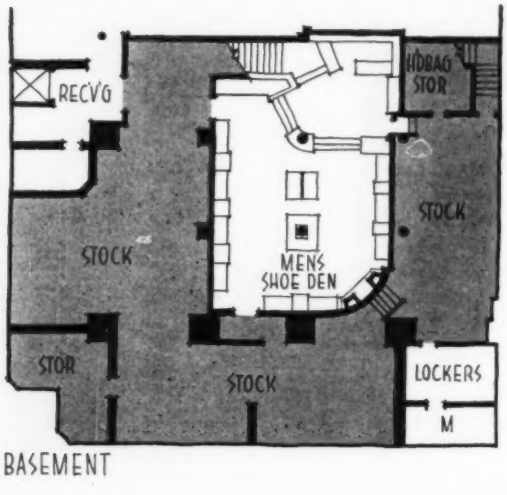
storage





Philip Fein

Salon type of layout where most merchandise is concealed: Frank Werner Co., San Francisco, Calif.; Hertzka and Knowles, Architects; Elizabeth Banning, Color Consultant; Dorothy Liebes, handwoven draperies

ANALYSIS OF TESTS ON HOUSE HEAT PUMPS

Kingsport, Tennessee

Abingdon, Virginia

Roanoke, Virginia

Coshocton, Ohio

South Bend, Indiana

For the assumed house used in the graph, heated by a 3-hp heat pump, there will be sufficient heating capacity to compensate for the heat loss at 20F. Above this temperature, the heat pump is oversized, and below it, the heat pump must be supplemented by storage or electric resistance heating

The results of one and a half years' investigation in five houses, purposely chosen for their variety of size and climate, and a study of chemical heat storage point the way for more economical installations, both in first cost and in operation

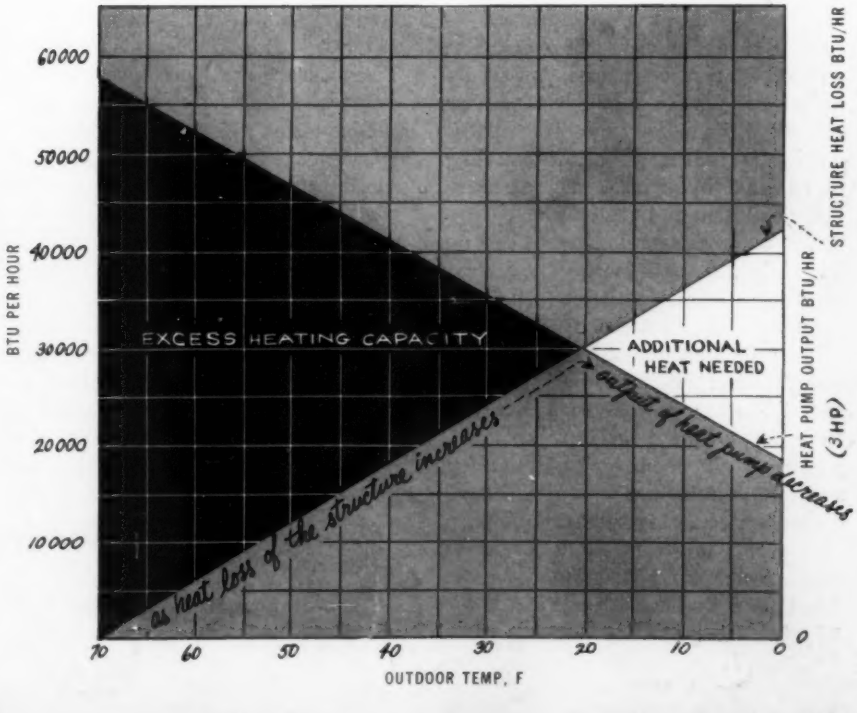
A LITTLE over three years ago, heat pumps were installed in five newly constructed houses in a field test program sponsored by the American Gas and Electric Company and its subsidiaries and in cooperation with the home owners and designers. The residences are located in Kingsport, Tenn.; Abingdon, Va.; Roanoke, Va.; Coshocton, Ohio; and South Bend, Ind., providing a wide range of climatic conditions to give comparative value to the test results.

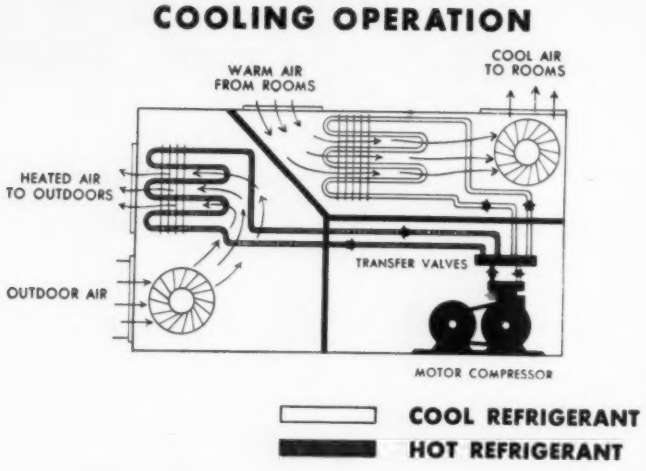
At that time much data was available on heat pumps in office and commercial buildings, but practically nothing on them in houses. The American Gas and Electric Company wanted to get a better idea of the operating costs and practicability of residential heat pumps; and, in order to obtain the necessary data, equipped the houses with recording devices which would indicate the heat losses of the structures, amounts of heating and cooling supplied by the heat pumps, power consumption of the heat pumps and electrical appliances, and operating characteristics of the pumps.

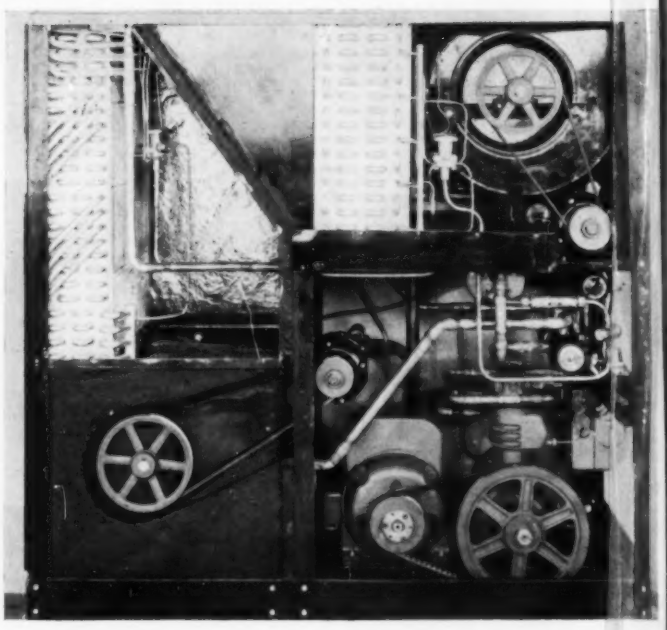
The five houses and their heat pump installations were described in ARCHITECTURAL RECORD, May, 1949. The following article covers the highlights of approximately one and one-half years of field testing in the five houses, and discusses the potentialities of reducing the size, initial cost and operating cost of the heat pump by the means of storing up heat in a "reservoir" of chemical salts.

Characteristics of The Heat Pump

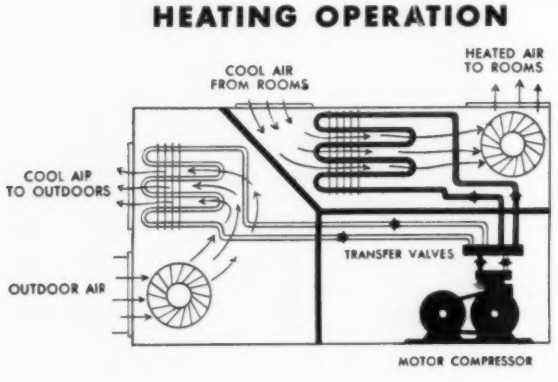
The characteristics of the heat pump for application to comfort conditioning are particularly appealing. The same refrigeration equipment that cools the house in summer, heats it in winter by utilizing the heat that would have been discarded had the space been comfort-cooled. The heat pump has most of the advantages of electric space heating such as elimination of dirt, soot and ashes; furnace labor, chimney or flue, and at the same time raises the over-all efficiency of electric heating from three to five times by extracting heat from relatively low-temperature sources such







Diagrammatic sketches above and below show how the heat pump at right uses air as a heat absorber in summer and as a heat source in winter. The rooms are conditioned by the circulation of air



A commercial heat pump placed in production recently has the panels off to show the three thermally isolated sections: (1) outdoor air circuit; (2) indoor air circuit; and (3) compressor and its motor. Air flow remains the same in both cycles, but valves change the refrigerant paths

as the outside air, the ground, or well water and raising it to a higher temperature for space heating. (Three to five times as much heat is made available than if the electrical energy alone were converted into heat.)

In addition, the combination of heating and cooling in a single system results in a minimum use of space. The equipment can be placed practically anywhere — utility room, basement or garage. In one package, it provides automatic heating in winter, cooling and dehumidifying in summer; air filtering, circulation and ventilation.

The research reported here takes on added significance because of the current excitement in residential air conditioning or — to use a better term — comfort cooling for medium-cost houses, and even for some low-cost houses. Perhaps a reason for this is that manufacturers have answered the demand for small, packaged air conditioning units for small businesses and offices, and have demonstrated that it is just as feasible to have air conditioning in the average home. A measure of this interest is the fact that at the annual meeting of the American Society of Refrigerating Engineers last month, a whole day was devoted to a seminar on this subject.

Another sign that the residential heat pump has come of age is that one manufacturer has two models in quantity production using air as the heat source, and at least four other companies are producing a wide range of units using water or the ground as the heat source. The packaged heat pump now available comes in 3- and 5-hp sizes when using outside air as a heat source and 2 to 20 hp when using the other heat sources. Air is being favored as a heat source particularly in the warmer areas because it is cheap to use, accessible, and relatively predictable. Design objectives in heat pumps are: (a) automatic control and switch-over from heating to cooling, (b) high efficiency, (c) no more than routine maintenance, (d) factory assembly to reduce cost of installation, (e) minimum first cost and physical size, (f) easy access to all components, and (g) quiet operation.

Factors Affecting Design of Heat Pump System

If a heat pump had all the capacity it needed to heat a house at the lowest temperature expected, it would be oversized for most of the heating season. For example, a heat pump in a Chicago residence sized for an outside design temperature of zero degrees would need the total heating capacity for only 1.3 per cent of the season, and three-fourths of the heating capacity for only 15 per cent of the heating season. The sizing of a heat pump based on a particular outdoor design temperature must be carefully considered, particularly when air is used as the heat source. From a first cost standpoint, it appears that the heat pump should be sized only for 78 per cent of the heating capacity required to meet this design temperature. In this case its output will be exceeded from 12 to 15 per cent of the season, and the additional heat can be supplied by a storage system or some other form of supplemental heating.

The relationship between the capacity of the heat pump required at various outside temperatures, and the duration of these temperatures for typical heating seasons in Chicago, Ill. and Roanoke, Va. are given in the graphs and table on page 183.

It is interesting to note from the

graphs and table that the percentage of time various heating capacities are required are approximately the same for both Chicago and Roanoke. If this tendency is found to be true after further investigation and study, it may permit a fairly standard design procedure for quite a large section of the country.

Engineers, manufacturers and utilities have for some time recognized the possibility of decreasing the required size of a heat pump system, and also the operating cost of such a system, if an economical method of storing heat could be found which would build up a supply of heat and then release it as it is needed.

Storage to meet peak demand has been practiced for a long time in commercial and industrial refrigeration, but only to a limited extent in residential comfort heating and air conditioning systems. The principal reason is that water, which has been the only readily available medium, requires more space than can be economically justified.

It is believed by some engineers that storage combined with the heat pump would result in many practical and satisfactory installations, if a substance were available having a considerably larger heat storage capacity per unit volume than water. One possibility is a salt which melts when heated, and soaks up a tremendous amount of latent heat (called the heat of fusion) when it changes its state. With certain salts, it would be possible to reduce the storage space from one-fourth to one-fifth of that required for water.

To illustrate the relative amounts of water or salt required for storage, assume that, during the coldest weather, a house would require 490,000 Btu for one day in addition to that produced by the 3-hp heat pump. A 1500-gal. tank would be required for water to provide sufficient storage; and approximately a 375- to 450-gal. tank for salt, depending on the salt used.

Storage may make the heat pump employing air as a heat source much more practical for the northerly sections of the country, because storage compensates for the condition of the heat source being at the lowest temperature when the heating requirements are greatest.

From the standpoint of availability and cheapness, air is the best heat source known. Unfortunately, many areas in the U.S. not only experience wide fluctuations in outdoor temperature, but the temperature drops quite low during certain periods of the year. The advantage of using storage under such a condition is illustrated on page 179.

The other two sources of heat — the ground and well water — have a fairly constant temperature; there would not be any sudden drops as occur with air. But these sources have their limitations. Practical limitations of pipe coils placed in the ground to extract its heat are: the installation expense; the many variables involved such as soil composition and moisture content; and the time and cost of designing each ground coil for the soil conditions of a particular site.

Well water is a good heat source, but it is not available in many locations. Drilling a well of sufficient capacity and reliability often proves prohibitive cost-wise. City water would be expensive and wasteful to use.

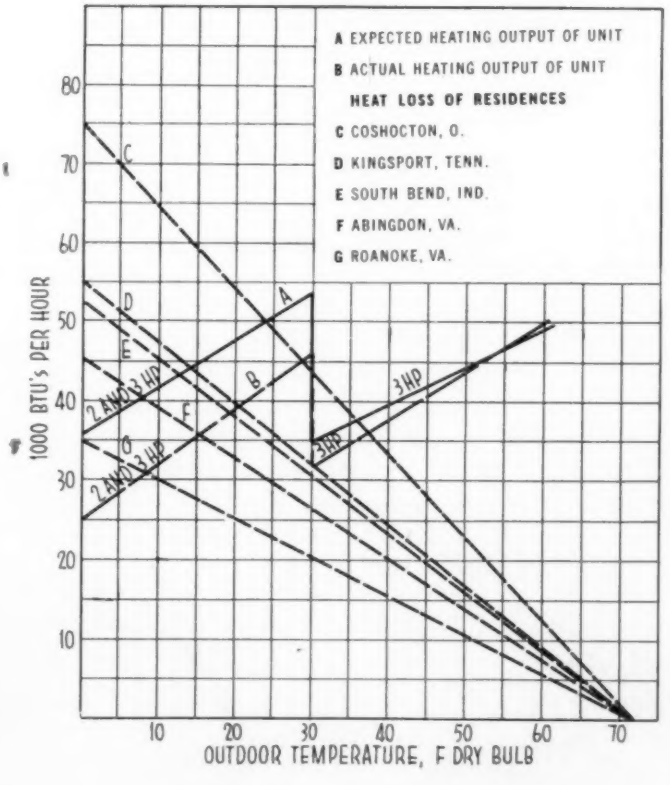
One of the simplest ways to reduce the size of heat pump required is to incorporate electrical resistance heaters as part of the equipment. The heaters will supply the extra capacity needed on the very cold days. In such an arrangement, it has been suggested that the house electrical system ordinarily will be controlled so that the resistance heaters will not go on simultaneously with an electric range, hot water heater and lights during the periods of peak power usage. This suggested arrangement may not be too practical to install however, and because there is no apparent way available to the utilities for serving such a load (high demand with low usage factor) at reasonable cost to the user, this type of system will probably not receive wide public acceptance.

The initial cost of resistance heaters is less than for storage. Storage, on the other hand, makes it possible for the consumer to use electricity during off-peak periods at a lower cost than average, as is now allowed for hot water heaters.

Chemical Storage—Principles and Advantages

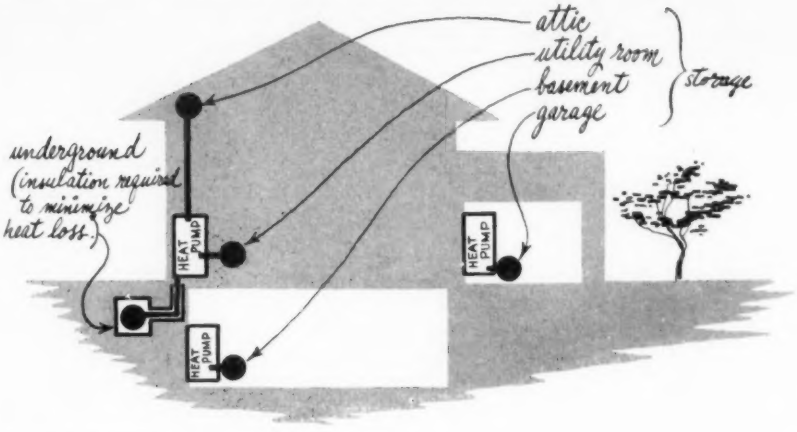
The American Gas and Electric Com-

EXPECTED HEAT PUMP OUTPUT AT VARIOUS OUTDOOR TEMPERATURES



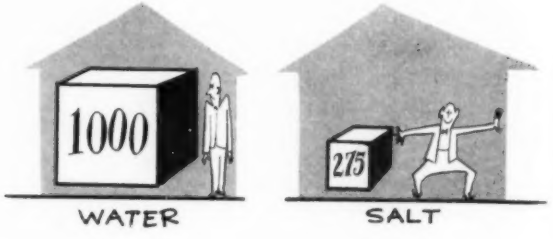
The expected and actual heating outputs of 5- and 3-hp, air-to-air heat pumps are given here. The vertical line at 30F indicates that a 5-hp unit is not needed for any of the houses above that point. The temperatures above which the heat pump has excess capacity and below which it needs more capacity can be found at the intersections of the output and heat loss lines

The idea of chemical heat storage is to reduce the size of heat pump required. The heat pump and its storage system can be located almost anywhere

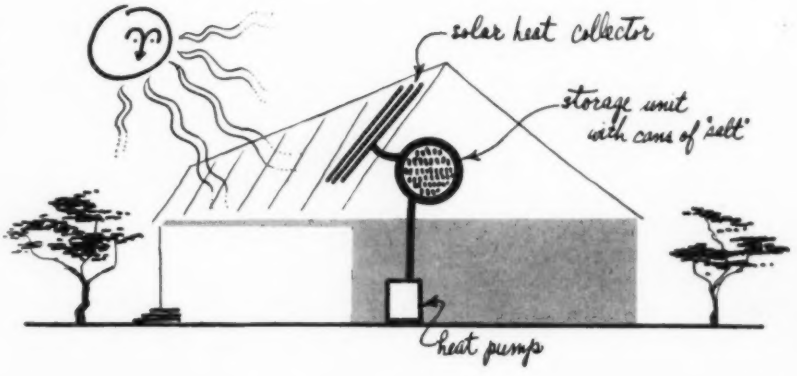


Sketches by Sol Ehrlich

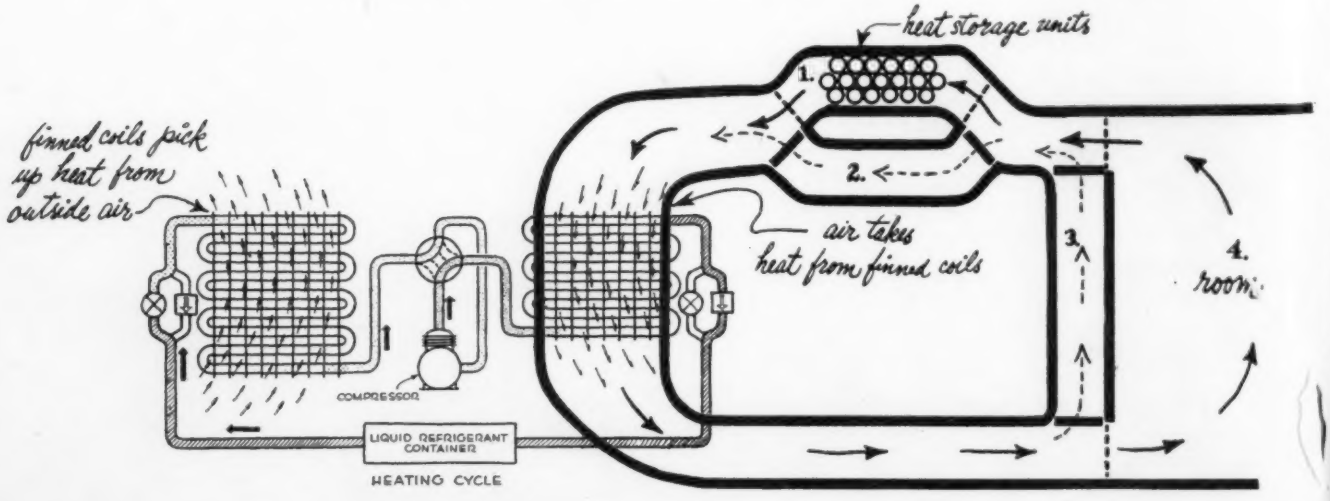
For a long time, water was about the only available storage medium, but it took too much space. Chemical salts now under test would take only ¼ as much room



Salts have already been used for a solar heated house, and it would be possible to combine solar heating, the heat pump and storage



*A schematic representation of how the heat pump can be augmented by chemical heat storage. Air is used here, but water as well could circulate over the cans of chemical salts (shown here in duct). When no stored heat is needed, the room air flows through the by-pass (**2**) and over the coils. When no heat is needed in the room, air picks up heat from the coils, by-passes the room (**3**) and passes over the salts (**1**). When the heat pump does not have sufficient capacity, the room air moves over the canned salts (**1**) and over the coils*



pany, with Dr. Maria Telkes as consultant, concluded early this year a series of laboratory tests on the use of chemical salts for heat storage. There has been considerable study to find a suitable material in which would be combined a relatively high latent heat of fusion and a melting point of approximately 100F–120F (a little lower than the operating temperature of the heat pump so as to insure complete melting of the material).

Heat storage using the heat of fusion principle is not new, having been employed before in solar heating installations. (A solar heating system using Glauber salts for storage, developed by Maria Telkes for a house near Boston was described in the March 1949 ARCHITECTUAL RECORD). However, this type of heat storage in conjunction with the heat pump is relatively new.

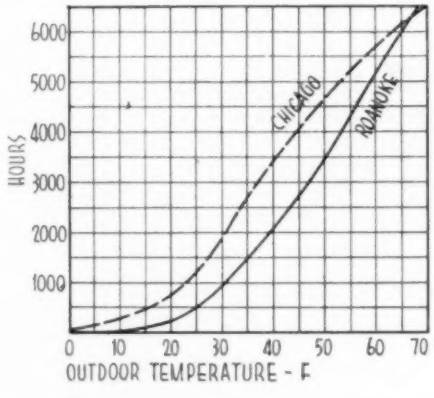
A question some people have had about salt storage is whether the salt would melt and "freeze" consistently at nearly the same temperature over a long enough period to make it practicable. To help answer this question, the American Gas and Electric Company ran 100 cycles of melting and "freezing" tests on a sodium phosphate salt (chemical name, disodium phosphate dodeka-hydrate) and found that it has considerable potential. One hundred cycles is the equivalent of from three to five-years' service. Other chemical compounds of sodium, calcium, magnesium and iron also offer possibilities.

Present plans call for eight field installations in which 50,000 cans of salt are to be used, each 2⅛ in. diameter and 2⅞ in. long. One of these, in the Roanoke, Va. residence, has a 3-hp heat pump and a storage system consisting of 6000 of the cans housed in two 275-gal. tanks. Water is circulated over the cans and through the condenser and water conditioner coils of the heat pump.

The most effective and practical size, shape and volume of container needs further investigation, but it appears that the larger the volume, the longer the melting-freezing cycle. "Baby food" cans of the size mentioned above were selected in order to obtain a large exposed surface per unit volume, and because of their reasonable cost due to quantity production methods already developed. The cycle with them is on the order of four hours for melting and four hours for freezing when they are heated by a fluid at 110F and cooled by an 80F fluid.

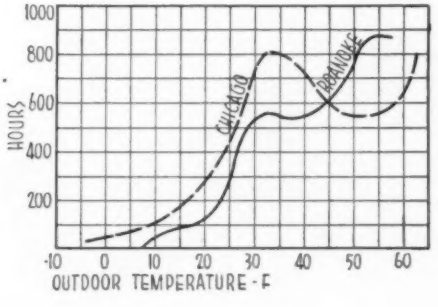
Apparently a critical factor in consistent solidification of the salt is a "seed crystal" which will trigger the whole crystallization process. This is analogous to the seeding of rain clouds with dry ice to make them give up their moisture. Maria Telkes experimented with the use of etched glass as a "seed," and in the tests, floats of cellular glass were used; but study is still being made since there is no assurance that this material will withstand continued melting and solidifying for as long as would be desired.

ACCUMULATIVE TIME OF OUTDOOR AIR TEMPERATURES FOR CHICAGO, ILL. AND ROANOKE, VA.



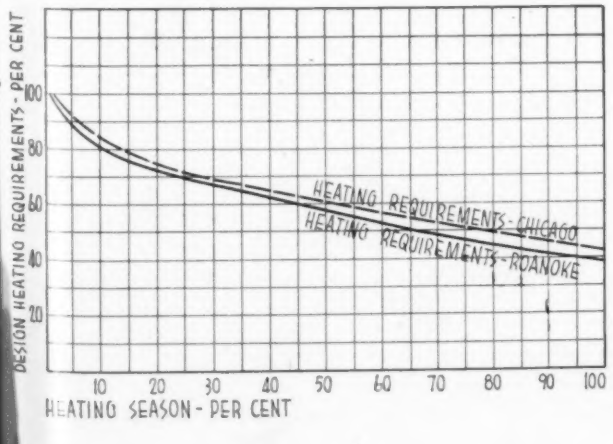
Graphs to the right and left show how nearly alike are the heating seasons in Chicago and Roanoke. All the curves on this page show that the maximum capacity (at normal design temperature) is required a relatively small period of time

DURATION IN HOURS OF OUTDOOR AIR TEMPERATURES FOR CHICAGO, ILL. AND ROANOKE, VA.



It is interesting to note from the graph (below left) and from the tabulation (below right) that the percentage of time that the various capacities are required is about the same for Chicago and Roanoke. This may mean a fairly standard design procedure for much of the country

RELATIONSHIP BETWEEN HEATING CAPACITY REQUIREMENTS AND OPERATING TIME (PERCENTAGE OF HEATING SEASON)



Roanoke, Virginia
100% of heating capacity is required 1.3 of the season
94% or more of the heating capacity is required 2.8% of the season
87% or more of the heating capacity is required 5.7% of the season
79% or more of the heating capacity is required 11.8% of the season
73% or more of the heating capacity is required 21.0% of the season
Chicago, Illinois
(Heating equipment sized for OF outdoor design temperature)
100% of heating capacity is required 1.3% of the season
95% or more of the heating capacity is required 3.6% of the season
85% or more of the heating capacity is required 9.5% of the season
78% or more of the heating capacity is required 15.3% of the season
71% or more of the heating capacity is required 24.4% of the season

KILOWATT HOURS FOR HEAT PUMP, RESISTANCE HEATING, AND APPLIANCES

Total May 1949–April 1950		
Kingsport, Tenn.		
	Heating	16153
Heat Pump:		
	Cooling	4179
Auxiliary Heating		7759
General Appliances		7709
	Total	**35800**
Abingdon, Va.		
	Heating	8651
Heat Pump:		
	Cooling	3060
Auxiliary Heating		4337
General Appliances		10803
	Total	**26851**
Roanoke, Va.		
	Heating	9429
Heat Pump:		
	Cooling	2715
Auxiliary Heating		3050
General Appliances		3246
	Total	**18440**
Coshocton, Ohio		
	Heating	16145
Heat Pump:		
	Cooling	3326
Auxiliary Heating		16897
General Appliances		7593
	Total	**43961**
South Bend, Ind.		
	Heating	15640
Heat Pump:		
	Cooling	2612
Auxiliary Heating		6351
General Appliances		8607
	Total	**33210**

It is believed that this salt has an upper temperature limit which should not be exceeded — around 120F. After 100 cycles of tests the cans were opened, and only small discoloration was found. Theoretically the particular salt used has a heat fusion of 114 Btu per lb.

Cost of Salt Storage

To give some idea of the cost of salt storage an example is given here of an average six-room house from 10,000 to 13,000 cu ft and with a 40,000 Btu per hr heat loss at an outdoor design temperature of 10F. A 5-hp heat pump using air as the heat source could carry this heating load alone and would cost about $3500 installed. However, a 3-hp heat pump, costing about $2700 installed, would have to be supplemented by two tons of salt with a probable cost of $400, excluding the tank. The total cost would be about $3300, resulting in a slight saving of about $200 or so. This saving in installation cost has a good chance of increasing as application technique is improved and cost is reduced with continued research and investigation.

Cost of Operation

The heating season performance factor (heating output ÷ electrical energy input) for four of the trial installations averaged 22 per cent below the expected factor of 3. This could have been caused by a number of mechanical difficulties and insufficient insulation between outdoor and indoor air components or perhaps peculiarities of the refrigerant.

If the expected performance factor of 3 had been obtained, the average operating cost (based on 1½ cents per kwh) would have been about 7 per cent higher than coal costing $18 per ton; about 13 per cent lower than oil costing 13 cents per gal.; and 38 per cent higher than natural gas, costing 55 cents per 1000 cu ft.

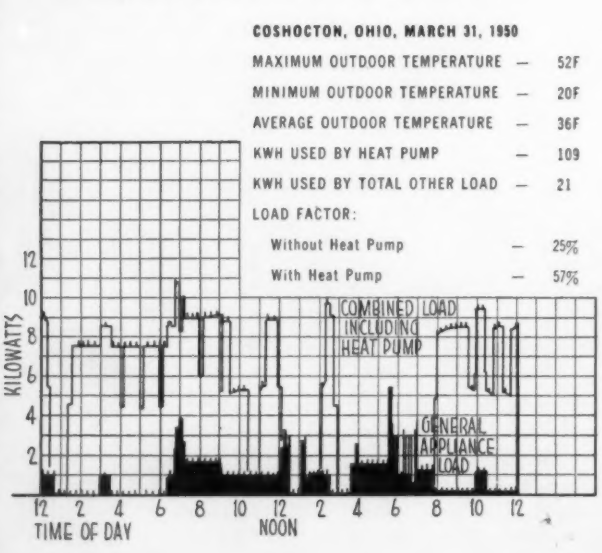
But due to the low performance factor, the actual average operating cost was about 37 per cent higher than coal, 18 per cent higher than oil, and 80 per cent higher than natural gas (same unit prices apply). For more detailed information on power consumption and costs see the table below.

The annual heat pump consumption (heating and cooling) varied from 13,365 to 26,231 kwh with an average for the five installations of about 20,000 kwh. The annual electric load (excluding auxiliary heating) ranged from 16,611 to 33,824 kwh with an average of about 27,000 kwh. These average figures show that the annual energy consumption of

(*Continued on page 264*)

Below left: The installation of a heat pump and chemical storage improves the electrical load of the utility considerably, and may make more favorable rates likely. As will be noticed, the heat pump fills in some of the valleys, but the peaks caused by the general appliances still appear. Daily load factor = actual kwhr consumed ÷ connected load of electrical equipment × 24 hr. Note the peaks at 7 a.m., noon and 6 p.m.

GENERAL APPLIANCE AND COMBINED ELECTRICAL LOAD WHEN HEATING


COSHOCTON, OHIO, MARCH 31, 1950
MAXIMUM OUTDOOR TEMPERATURE — 52F
MINIMUM OUTDOOR TEMPERATURE — 20F
AVERAGE OUTDOOR TEMPERATURE — 36F
KWH USED BY HEAT PUMP — 109
KWH USED BY TOTAL OTHER LOAD — 21
LOAD FACTOR:
Without Heat Pump — 25%
With Heat Pump — 57%
COMBINED LOAD INCLUDING HEAT PUMP
GENERAL APPLIANCE LOAD
KILOWATTS
12 10 8 6 4 2
12 2 4 6 8 10 12 2 4 6 8 10 12
TIME OF DAY
NOON

HEAT COST COMPARISON OF HEAT PUMP AND FUEL BURNING EQUIPMENT

	Actual Building Heat Loss Btu/hr	Estimated Heating Requirements in Millions of Btu's (Sept. thru May 273 Days)	Cost Estimates			
			Coal 12,000 Btu/lb $18.00/Ton	Oil 140,000 Btu/gal. 13c/gal.	Gas 55c/1000 cu ft	Electric Heat Pump Avg. CP* of 3.0
	1	2	3	4	5	6
Kingsport, Tenn.	55,000	100	$140.00	$169.00	$106.50	$ 97.50
Abingdon, Va.	45,500	95	134.00	162.00	102.00	139.00
Roanoke, Va.	35,000	69	102.00	122.00	79.00	101.50
Coshocton, Ohio	75,000	178	238.00	291.00	179.00	261.00
South Bend, Ind.	53,000	151	205.00	249.00	154.00	222.00

NOTE: 1. In the coal, oil and gas figures a $15 estimated cost was included to cover the heating system fan and other electric auxiliaries, since they are included in the heat pump costs. Also, a burning efficiency of 60 per cent was assumed for these conventional heating systems.
2. Estimated heating cost based on average indoor temperature of 72F.
3. Actual heat loss (column 1) is based on field test results.
4. Regular electric rates for the respective territories were used.
** CP = heat output ÷ electrical energy input. A CP of 3 is normal, but actual test operation was lower due to reasons outlined in the article.*

ARCHITECTS DESIGN A BOMBED-OUT TOWN

McLeod and Ferrara, Architects

C. Warren Bogan & Assoc., John G. Loehler, Consulting Engineers

Joseph B. Bahen Construction Co., Contractor

Two-Story frame house

Row house

Above right. Concrete office building

Above left. Steel apartment building

Theater building

THIS SUMMER the Federal Civil Defense Administration will have a brand new "bombed-out" town at Olney, Md., a few miles from Washington, D. C., on which to practice its fire-fighting and life-saving techniques.

It is putting it mildly to say that the architects had a unique assignment in determining how various kinds of buildings would be damaged by bombing, and then to design five of these buildings in bomb-damaged condition so that rescue training operations could be conducted safely and in realistic fashion.

The architects worked out a complete program of requirements for the design and development of a "Rescue Training Facility." Although the facility at the FCDA Staff College in Olney is the only one now under construction, locations in Oklahoma and California have been considered for Federal schools, and several states and large cities have shown interest in the program. The findings and designs of the architects should be of interest to architects country-wide because they may well be asked to participate in local and state civil defense programs.

The architects cooperated with the FCDA agency and other federal agencies in their effort to incorporate into the designs the results of studies of high-explosive bombings in Great Britain and Germany and effects of the atomic bombings of Nagasaki and Hiroshima in Japan. The architects even studied a translation of a German manual called the "Systematics of Damaged Sites and the Rescue of Buried Persons" written by an engineer who headed the German Technical Emergency Service.

It is believed that damage to American buildings from atomic blast would consist mainly of twisted steel columns, dislocation of cross beams and the falling away of walls between them. The outside frame would probably remain pretty well intact. It is on these broad assumptions that the planning of the

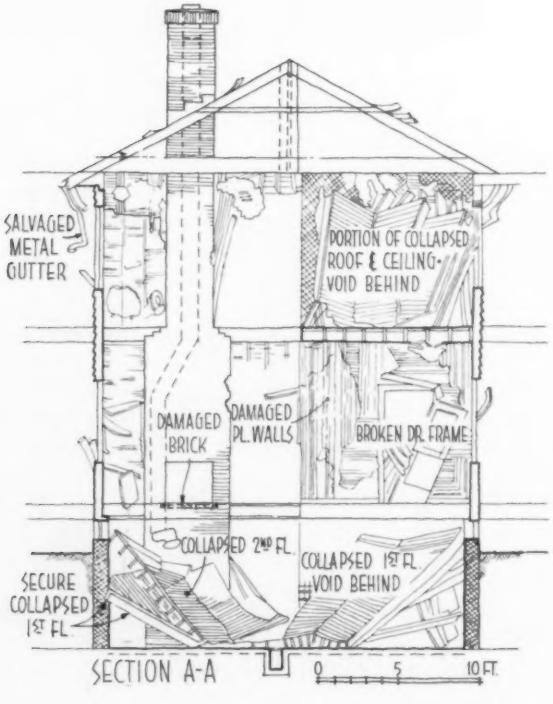
rescue street went forward and on which construction now is based.

The Bombed Buildings

The rescue street will include an outdoor demonstration area for advanced training in use of rescue tools, a two-story and basement wood-frame house, two-story and basement row house, two-story office, store and theater building, three-story and basement steel apartment building, and a five-story reinforced concrete building.

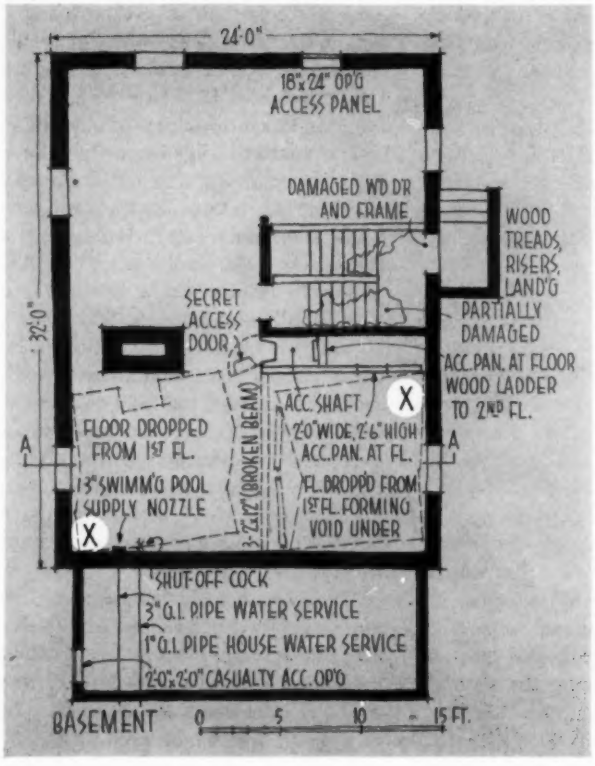
Agency spokesmen say that a new approach to rescue work is demanded. This stems from the fact that many of the city dwelling structures in Britain and Germany bombed in World War II were older than U. S. buildings. The mortar used in their brickwork was not as strong. The conclusion is that walls of U. S. buildings would not disintegrate into small bits as readily as those in Europe, but would break up into large sections with the side walls collapsing, or "pancaking" into horizontal layers. These layers would be held apart by debris, furniture and other objects.

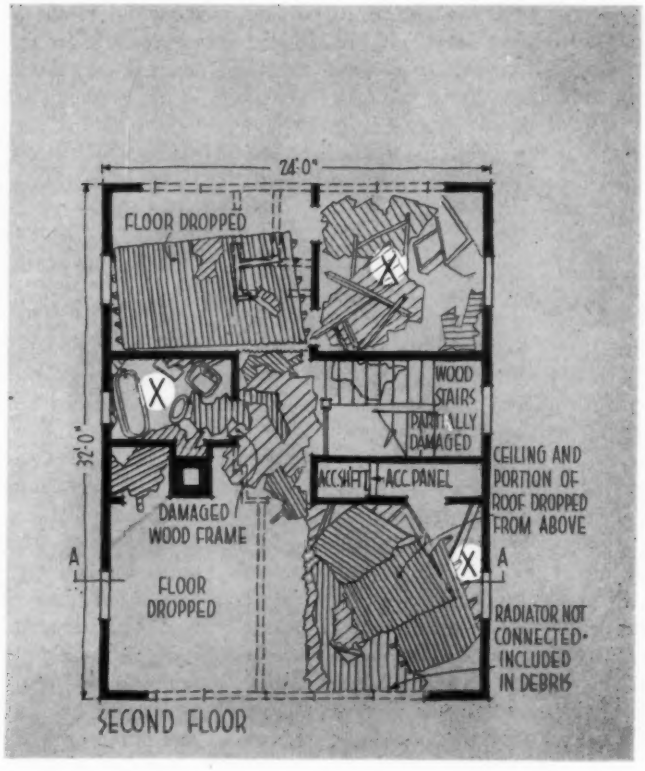
This two-story frame house is typical of dwellings found in the industrial areas of the East and Midwest. These buildings usually collapse in fairly large panel sections; walls, for example, would come apart in the form of panels, not as loose boards. Wood frame buildings also would be racked (distorted), resulting in wall panel failure and collapse of floor and roof framing. Many protective voids would be formed in the debris. This and other buildings simulate damaged areas on the fringe of the completely devastated areas



The Ideal Plot Plan

The "Rescue Street" was originally conceived as a "T" shaped connection within the area bounded by the peripheral roadway, but the site at Olney and the budget did not permit the ideal plan on page 188. It serves, however, as a model for any further such facilities. This arrangement permits exercises to be carried on within the Rescue Area without interference from service traffic, as well as permitting flexibility in the rescue problems. The "T" shaped street formation also provides street intersection problems and exercises. Furthermore, this street arrangement will permit the erection of additional structures, such as: a community bomb shelter, a fire tower, or other training "sets," if conditions should, at any time, call for an expanded training program.


24'-0"
18"x24" OP'G ACCESS PANEL
DAMAGED WD DR AND FRAME
WOOD TREADS, RISERS, LAND'G PARTIALLY DAMAGED
SECRET ACCESS DOOR
32'-0"
ACC. PAN. AT FLOOR WOOD LADDER TO 2ND FL.
ACC. SHAFT 2'-0" WIDE, 2'-6" HIGH ACC. PAN. AT FL.
FLOOR DROPPED FROM 1ST FL.
3-2"x12" (BROKEN BEAM)
3" SWIMM'G POOL SUPPLY NOZZLE
FL. DROPPED FROM 1ST FL. FORMING VOID UNDER
SHUT-OFF COCK
3" Q.I. PIPE WATER SERVICE
1" Q.I. PIPE HOUSE WATER SERVICE
2'-0"x2'-0" CASUALTY ACC. OP'G
BASEMENT
0 5 10 15 FT.

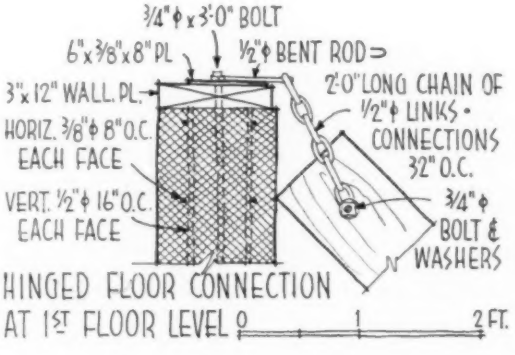


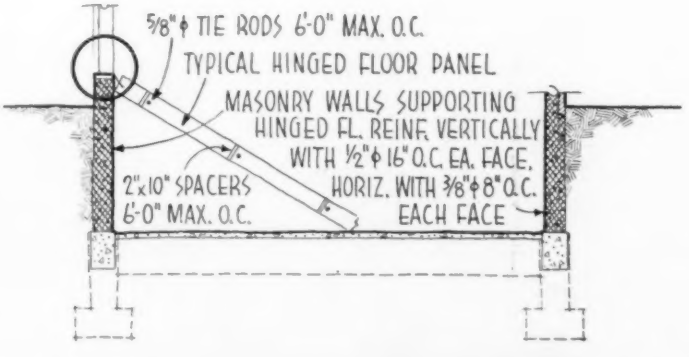
The buildings are designed so that rescue operations can be conducted with a great deal of realism, and at the same time under safe conditions. Secret accesses are provided so that "live" casualties (X) can creep in behind "fallen" floors and ceilings without being noticed. This creates forceful realism which cannot be duplicated by using dummies, and also insures careful workmanship on the part of the trainee. Fallen panels are fastened to stationary, solid sections by means of chains so that when the "rescuers" try to move the panels, there will be realistic movement to put them on guard, but there will be no danger of the "fake" casualty being hurt. In case the rescuers begin to prod too vigorously, the casualty can crawl back into the access. Panels are reinforced so that they will not be damaged after many training periods.

Type of Damage Portrayed

In designing the bomb-damaged structures, it was of paramount importance to decide the extent of damage to portray in order to provide the optimum training potential in each "set." Realism is, of course, the prime consideration, for without it no training course yet devised could prepare for the real thing.

For any given situation, the extent of damage would depend on the distance from the center of explosion, or as it is expressed in terms of the atomic bomb, the distance from ground-zero. Thus, since the objective of rescue training is to provide first-hand experience in practical rescue operations, it would be of little value to portray training "sets" so completely demolished that the finding of live casualties would be a remote possibility.


3/4"ϕ x 3'-0" BOLT
6"x3/8"x8" PL
1/2"ϕ BENT ROD
3"x12" WALL. PL.
2'-0" LONG CHAIN OF 1/2"ϕ LINKS - CONNECTIONS 32" O.C.
HORIZ. 3/8"ϕ 8" O.C. EACH FACE
VERT. 1/2"ϕ 16" O.C. EACH FACE
3/4"ϕ BOLT & WASHERS
HINGED FLOOR CONNECTION AT 1ST FLOOR LEVEL
0 1 2 FT.


5/8"ϕ TIE RODS 6'-0" MAX. O.C.
TYPICAL HINGED FLOOR PANEL
MASONRY WALLS SUPPORTING HINGED FL. REINF. VERTICALLY WITH 1/2"ϕ 16" O.C. EA. FACE, HORIZ. WITH 3/8"ϕ 8" O.C. EACH FACE
2"x10" SPACERS 6'-0" MAX. O.C.

Carrying this thought into the design of the training "sets," it was decided that the buildings portrayed should simulate those damaged areas on the fringe of the completely devastated areas, at the same time providing a degree of realism closely paralleling conditions most likely to confront the rescue worker.

The five simulated bomb-damaged structures were based on careful investigation of the most common types of structures to be found in the United States. Every attempt was made to provide as realistic a "set" as construction methods and safety permit.

All masonry wall panels left standing or inclined are properly secured or reinforced to avoid inadvertent dislocation. The floor and roof panels used in lifting, shoring or jacking exercises are adequately reinforced, so as not to break up with constant rough usage. Portions of the buildings where attachments for block and tackle, well pullies, etc., may be made, are designed to avoid failure. Wherever masonry wall openings are to be cut, specific masonry markings will show permissible locations and lintels are placed over them. Wherever slabs, beams, columns, rods or panels are to be cut, special markings show limits. Shoring and tuneling members are of selected timber, checked frequently for damage.

The Outdoor Demonstration Area provides supplementary training in fundamental rescue skills as a necessary prerequisite to actual exercises on the training "sets." Classrooms are located in the basement of the office and apartment building. Various building services displays will be used for familiarization training. It will be practicable to carry out many elementary training exercises in this area, particularly during periods of inclement weather.

Destruction in the Five Buildings

Two-Story House. The two-story basement wood-frame house is the most common type of dwelling found in American cities, particularly in the industrial areas of the East and Midwest.

Analysis of the effects of bombing in Japan and the effects of explosion damage in this country indicated that wood-frame buildings generally collapse in fairly large panel sections; walls, for example, would "come apart" not so much in the form of loose timber and boards but in panels composed of studs and siding, or floor boards and joists still somewhat intact. These buildings would be racked laterally (distorted), resulting in wall panel failure and collapse of floor and roof framing. Many protective voids would be formed in the debris. By translating these facts into the training "set" the damage will be portrayed with some degree of accuracy and realism.

Row House. The two-story row house also is recognized as a type found in large numbers in cities of 30,000 population and over. This is the house built in the period from 1890 to 1920 and often found in downtown areas of older cities.

The construction of a row house is, typically, the framing of single span wood joists between masonry party walls. The weakening or destruction of these side walls would cause the floor panels to collapse in a horizontal or "pancake" manner.

Office and Apartment Building. For the office and apartment structures, the architects followed the 1920–1930 period when steel skeleton construction began to replace wall-bearing types, and structural steel was gaining favor over wood-joist framing. Many of the urban-area buildings in this country today are of this type.

The exterior walls of these structures are generally brick-faced, with hollow clay tile back-up. Floor slabs are usually reinforced concrete over light beams. Partitions are built of hollow clay tile or gypsum blocks, plastered.

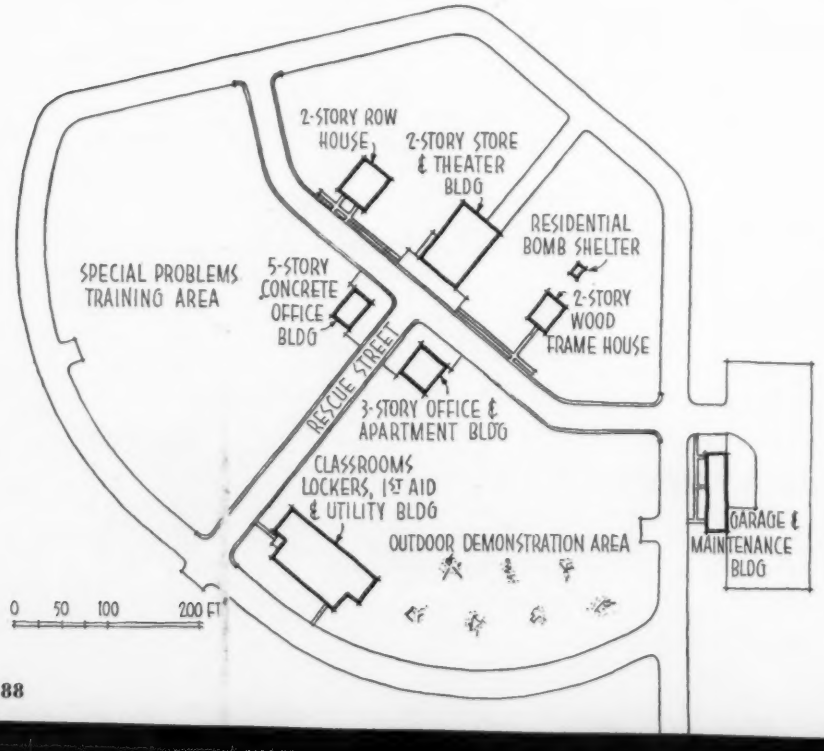
From data on bomb and explosion damage (particularly the one which occurred in Texas City, Texas) it can be predicted that considerable racking and twisting of the steel skeleton will result. Since the exterior walls are light in weight and serve merely as a skin-covering, a large quantity of rubble will be present. Floor panels will also collapse if the racking and twisting is severe enough to break the connections. Partitions and plaster will fill each level with debris.

Theater Building. The office-store-theater-type building in the Olney plan, two stories high in front with a high-ceilinged garage or workshop in the rear, is typical of some of the city school buildings and other places of public assembly.

This type, said FCDA, is not well-suited to withstand the effects of an atom bomb explosion. The big danger is from disintegration or movement of the walls, causing collapse of roof and floors.

Reinforced Concrete Structure. The five-story reinforced concrete building has been designed to be typical of most large business, institutional and public buildings today. Offices, banks, hospitals and schools fall in this category. Columns, beams, floor slabs, roofs and sometimes exterior walls are of reinforced concrete. The problem of extricating persons from damaged buildings of this type arises from the number of stories through which the rubble falls and accumulates.

An ideal plot plan and facilities for a rescue training program


2-STORY ROW HOUSE
2-STORY STORE & THEATER BLDG
RESIDENTIAL BOMB SHELTER
SPECIAL PROBLEMS TRAINING AREA
5-STORY CONCRETE OFFICE BLDG
2-STORY WOOD FRAME HOUSE
RESCUE STREET
3-STORY OFFICE & APARTMENT BLDG
CLASSROOMS LOCKERS, 1ST AID & UTILITY BLDG
OUTDOOR DEMONSTRATION AREA
GARAGE & MAINTENANCE BLDG
0 50 100 200 FT

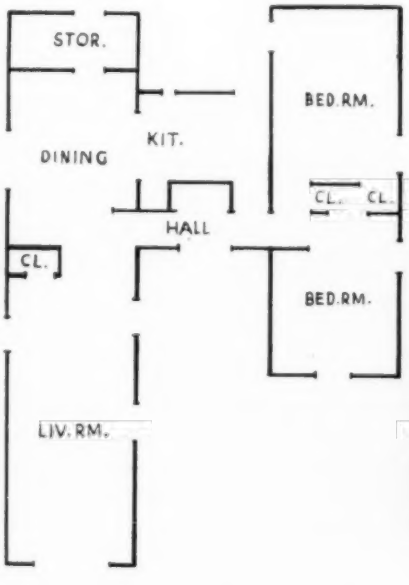
Demountable House Uses Non-Critical Materials

A permanent, mobile-demountable house, the *Unishelter* is a five room and bath, three-unit, factory-assembled package which reportedly can be easily transported, assembled and demounted in a minimum of time. In a test held recently before Federal housing and defense officials, one of the houses was taken from the assembly line, transported one mile to a cleared and landscaped site and re-erected in less than 1½ hrs.

The units are built entirely of sheets of stressed-skin plywood laid grain against grain and laminated with special plastics under many tons of pressure and 50,000 w radio frequency heat to a soft-core center into which insulating material is packed. Known as Unicel, this method of construction is reported to

(*Continued on page 202*)

House is ready for occupancy after being transported and reerected in less than 1½ hrs

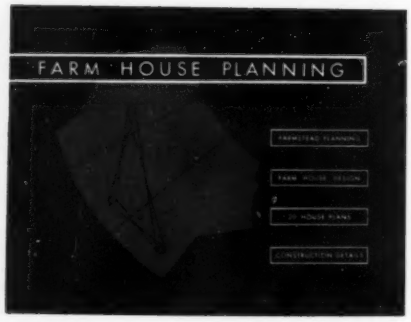


Plan, left, is one of many varied arrangements possible with component units of demountable house

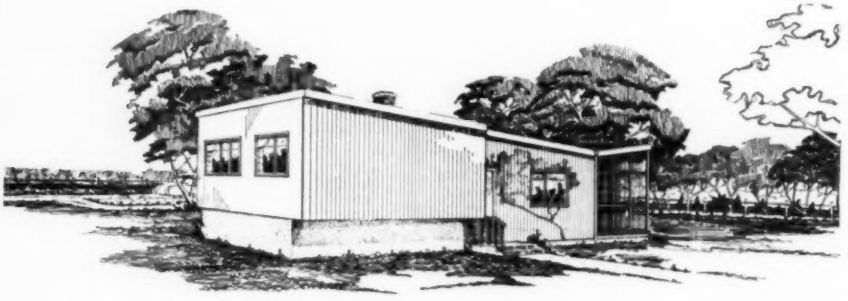
Interiors, as in living room, left, and dining room, above, are compact without being cramped or cluttered

Typical scenes in assembly process: at left, living-dining unit is being lowered in place over foundation; center, kitchen-utility unit is swung into place; right, workman tightens fittings connecting two units

LITERATURE FOR THE OFFICE



Booklet, left, contains suggestions for planning farms and farmhouses. Typical suggested house, below, is compact, neat



Farm House Planning Guide

Farm House Planning. Comprehensive booklet outlines in detail considerations concerning the planning of houses and farmsteads. A general introduction is followed by specific sections on planning of kitchen, utility room, living room, sleeping, bathing, dressing and storage areas. Detailed case studies of 20 model designs, with perspective drawings and plans, are presented. The booklet is completed with a brief but thorough introduction to problems and methods of construction. 88 pp., illus. Planning Research Centre, School of Architecture, University of Manitoba, Canada.

Oil-Hydraulic Elevators

Globe Oilift Elevators. Catalog illustrates the manufacturer's line of oil-hydraulic elevators for freight and passenger service, covering a wide range of installations from small apartment houses to heavy duty industrial areas. Photographs of various types and sizes of cars are included, together with diagrams and illustrations of component parts and special equipment. 11 pp., illus. Globe Hoist Co., East Mermaid Lane at Queen St., Philadelphia 17, Pa.*

Zinc For Building

Zinc for Architectural Uses. Booklet describes ways in which rolled zinc may be used by the architect and builder. A list of suggested applications is included. 6 pp., illus. American Zinc Institute, 60 E. 42nd St., New York 17, N. Y.

** Other product information in Sweet's File, 1952.*

Self-Sticking Markers

Brady Self-Sticking Industrial Products. The manufacturer's complete line of wire markers, pipe markers, safety signs, "scotchlite" reflective signs, masks and stencils, and printed roll tape is described and illustrated in this catalog. Specifications and suggested applications are included, together with a price list for stock labels. Each section of the catalog is separated and tabbed for easy reference. 28 pp., illus. W. H. Brady Co., Dept. 77, 1630 E. Spring, St., Chippewa Falls, Wis.

Floor Coverings

1952 Sloane Catalog. Book is divided into five categories, including Linoleum, Tile, Printed, Wall Covering and General. The sections devoted to floor coverings contain textual descriptions of various patterns and show with full page illustrations the detail and color of each. Decorating suggestions for effective color schemes are also included along with instructions for installing and estimating the requirements of linoleum flooring. Descriptions, installation and estimations are also given for wall coverings, and the "General" category lists adhesives and contains a table of gauges and shipping weights. 195 pp., illus. Sloane-Blabon Corporation (A Div. of Alexander Smith, Inc.), 295 Fifth Ave., New York, N. Y.*

Drafting and Engineering Equipment

The Copyflex Process (Booklet A-2008). Brochure describes new system of making accurate duplicates of practically anything that has been drawn, written, typed or printed. Functions of the Copyflex machine are given and a brief description on how to make a Copyflex print is included. Photographs show several of the available machines, giving information on the various sizes of reproductions that can be made, and diagrams illustrate the exposure and developing action of the machine. 7 pp., illus. Charles Bruning Company, Inc., Teterboro, N. J.

Exterior Masonry Paint Guide

Masonry Painting Handbook. Catalog illustrates field-tested painting techniques for 37 masonry surfaces, including concrete, stucco, block, brick, asbestos siding and miscellaneous masonry walls. Problems caused by specific surface conditions such as density, porosity, cracking, scaling, peeling and previous painting are also dealt with. Information on surface preparation, application techniques and coverage is furnished and specifications are included. 11 pp., illus. Wesco Waterpaints, Inc., Dept. MPH, Trenton 7, N. J.*

(Continued on page 256)

PORCELAIN ENAMEL—2: Fabrication Limitations

Prepared by Harold Edelman, A.I.A.,
Instructor at Pratt Institute

Architect's Drawings and Shop Drawings

Architect's drawings should show overall sizes, panel back-up materials (if any), wall construction, type of furring (if any), required colors (from manufacturer's standard color numbers) and required profiles of special shapes, sign letters, etc. Drawings should not be over-dimensioned or over-detailed as this may limit work to bids of one manufacturer or force him to make special shapes or connections when his standard details may, to all intents and purposes, be the same. If the joints are an important feature of the design, the panel sizes and rough details should be established with a manufacturer during the early stages of the work. Otherwise these sizes may be left to be shown on the shop drawings. Drawings and specifications should clearly call out whether such items as electric signs, flashings and furring are to be provided by the porcelain enamel contractor.

All manufacturers will provide the architect with thorough and careful shop drawings as well as samples of edge details, clips, connections, colors, etc. whenever these are required.

Fabrication Limitations

Colors: Each manufacturer has stock colors related to a system of color cards or chips. Any color can be made except metallic tints such as silver, bronze or aluminum. Special colors involve extra cost since color comparisons can be made only after firing test samples. Any design or decoration can be made, from a simple geometric design to a mural. Repetitive designs are usually brushed on by hand through stencils although some have been made using the silk screen process.

"Brushing" or "edging" is the process of removing the finish enamel from certain areas, especially those in close proximity to other parts of the assembly, exposing a black or dark colored base enamel, which being much thinner is more nearly proof against damage in shipment, assembly and use. Usually used so as to be invisible when erected, it has inherent decorative possibilities.

Finishes: Can be glossy, semi-matte or mottled at no extra cost. Dead matte is not practicable where dirt is a problem. The desired degree of reflection should be carefully considered. Some manufacturers produce three qualities of finish: 1 — regular; 2 — weather resisting; 3 — acid resisting. The latter is extremely nonporous and is to be recommended for extreme weather, smoke or smog conditions as well as more obvious applications.

Weight: For approximate weight calculations use a figure of 3 lbs per surface sq ft for porcelain enamel without back-up materials.

Size: Determined by strength required by use, desired degree of flatness, type and design of enamels used, number of firings required, ease of handling, etc. Any size panel up to 48 by 120 in. can be handled by most equipment. Repetitive rectangular shapes should be based on stock metal sheet sizes which are 30, 36, 42 and 48 in. wide and 96, 120 and 144 in. long. Face panel dimensions should be designed to use stock sheet size reduced by twice the flange depth or other joint detail. (Thus a 48 in. wide sheet with 1 in. flanges on each side would give a face panel dimension of 46 in.) This will eliminate the need for using the next larger sheet size and cut down on waste. Flange depths depend on panel sizes and are usually 1 in. or 1⅛ in. although on small panels they may be as small as ⅜ in., with the fabricator's consent. Maximum sizes for economical fabrication and handling are between 2 sq ft and 12 sq ft (see "Shapes and Forms"). There is no standardization of sizes or details in the industry.

TYPES OF FORMED EDGES

The following is a table of stock sizes produced by one manufacturer, with ¾ in. flanges, 16 gauge iron

height	width	height	width
10	16	34	34
10	22	34	40
10	28	34	46
10	34		
10	40	**Stock sizes of a second manufacturer using the same gauge & same material**	
10	46		
16	22	24	24
16	28	24	27
16	34	24	30
16	40	24	33
16	46	24	36
22	22	27	27
22	28	27	30
22	34	27	33
22	40	27	36
22	46		
		30	30
28	28	30	33
28	34	30	36
28	40		
28	46		

Rubber tile or plastic... Fremont has it!

We've added a Complete New Line of Vinyl Plastics!

VINATOP and VINATILE

in 10 Permanent Colors

ANYWAY YOU FIGURE IT, COST, MATERIAL, COLORS—FREMONT'S THE BRAND TO SPECIFY.

You have a floor choice—rubber or plastic! Fremont, the "name" in rubber tile, has now added a complete new Vinyl Plastic line for floors and topping. VINATILE IN 9" x 9" individual tiles and VINATOP in roll goods, gives your rooms permanent, new matching colors without buying special materials. They're made of tough vinyl plastic over felt base backing—designed for easy cleaning, color permanence at a cost figure that makes any job inexpensive. Specify both on the next set of plans.

NO TRICK TO INSTALLING. SHE CAN DO IT HERSELF!

Let her do it! Fremont VINATILE or VINATOP are very easy to install . . . save your client both time and money. Full instructions, tools, etc. are available at your Dealers.

SUGGEST NEW PATTERNS! SEE YOUR DEALER, OR WRITE . . .

Fremont Rubber Company

309 McPherson Highway, Fremont, Ohio

RUBBER TILE | VINYL PLASTIC COVE BASE | SPONGE RUBBER RUG CUSHION | RUBBER STAIR TREAD | PLASTICS | FOAM RUBBER

Dept. 20, Fremont Rubber Co.,
309 McPherson Highway, Fremont, Ohio

Gentlemen:

Please send me details on Fremont VINATILE and VINATOP.

Name_____

Firm Name_____

Street Address_____

City_____ State_____

PORCELAIN ENAMEL—3: Fabrication Limitations

Prepared by Harold Edelman, A.I.A.,
Instructor at Pratt Institute

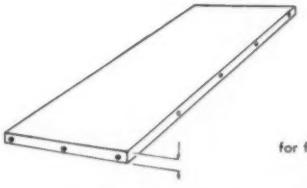
Thickness of Metal: 16 or 18 gauge usually used. 20 gauge to 24 gauge may be used if panel is small and proper precautions are taken to insure rigidity. 16 gauge reduces possible warping troubles but is expensive if gas-welded connections are required. For sign letter gauges see later sheets. Fastening clips are usually 26 to 30 gauge if stainless steel, otherwise two gauges thinner than the face metal. Manufacturers should be consulted on each specific problem. (For further data on clips see "Methods of Attachment".)

Chart A may be used as a guide for the design of parts of small size where only moderate rigidity and flatness are required. All parts larger than those shown should be 18 gauge or heavier.

Back-up Materials: Back-up materials provide additional stiffness, heat insulation and sound deadening qualities. There are three general types:

1. Plywood or insulating board attached to the back of the porcelain enamel by adhesives.
2. ⅛ in. of tacking applied to the back by spraying.
3. Cement base materials cast in the wall panel creating an integral unit obtainable in thicknesses of 1 to 8 in. or more. This material is installed in exactly the same manner as a comparable thickness of any other masonry material. These units can be load-bearing, are set on a mortar bed, and can be equipped with lifting hooks, anchors and stainless steel edgings as desired. (See "Fastening Methods".) Insulating concretes are used in this manner.

Shapes and Forms: All required shaping, forming, cutting, welding, punching, drilling, etc. should be done before firing. The sheets may be corrugated, fluted, reeded, bent or embossed with an all-over pattern to provide additional stiffness if using lighter gauge metal and to decrease the appearance of waviness.



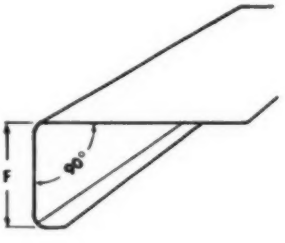
TYPICAL PANEL

corners welded and ground smooth

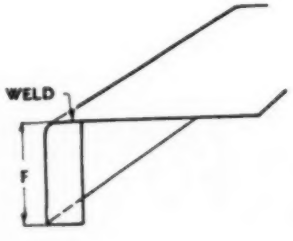
for flange depth see "Size"

FIG. 1
FLANGE DESIGN

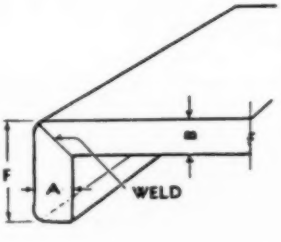
flange corners



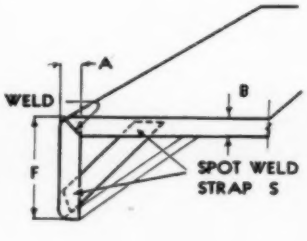
POOR
flange 'F' will change angle during firing



POOR
inadequate support at end flange

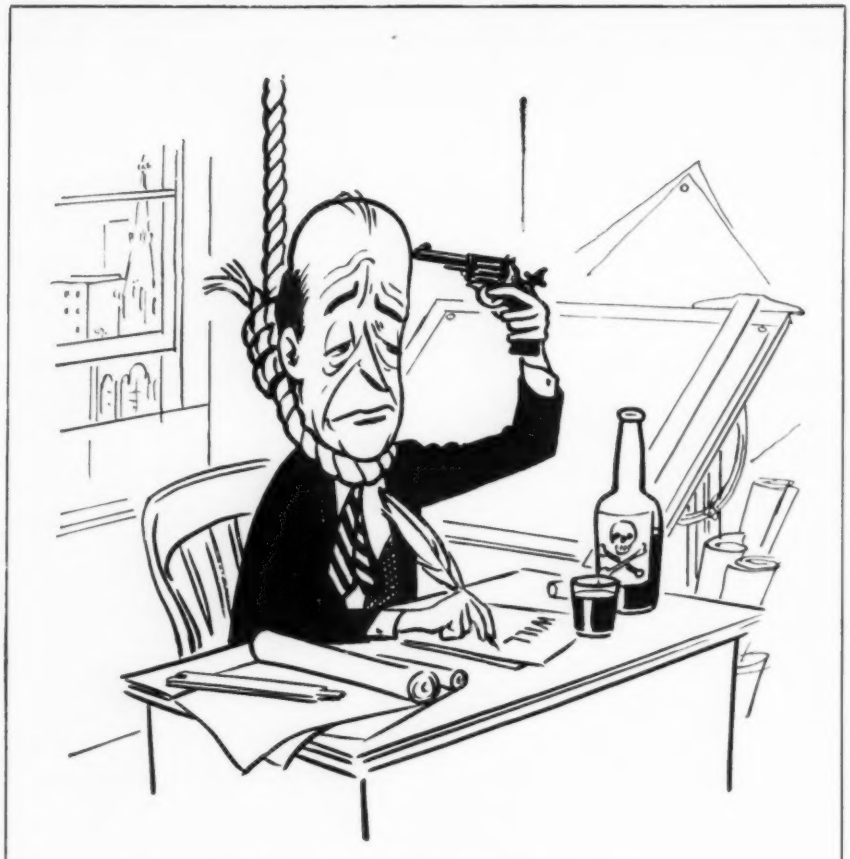


GOOD:
A-B-1/3F



GOOD*

*If A & B are less than ⅓F additional support provided by strap S



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1. You know in advance every fireplace will work properly. The scientific design of the Heatilator unit protects you against rule-of-thumb building methods . . . assures smokeless, trouble-free operation . . . reduces the need for constant on-the-job supervision.

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3. It circulates heat throughout the room instead of wasting most of it up the chimney.

The Heatilator Fireplace puts no limit on mantel design or use of materials . . . gives you complete freedom of architectural expression. It's ideal for basement rooms . . . a must for summer camps or cottages . . . and as a supplemental source of comfort during service interruptions or emergencies. The leader since 1927, the Heatilator Fireplace has been proved in actual use by hundreds of thousands of satisfied owners. It will pay you to specify a Heatilator Fireplace in your next home or group of homes. Heatilator, Inc., 387 E. Brighton Ave., Syracuse 5, N. Y.

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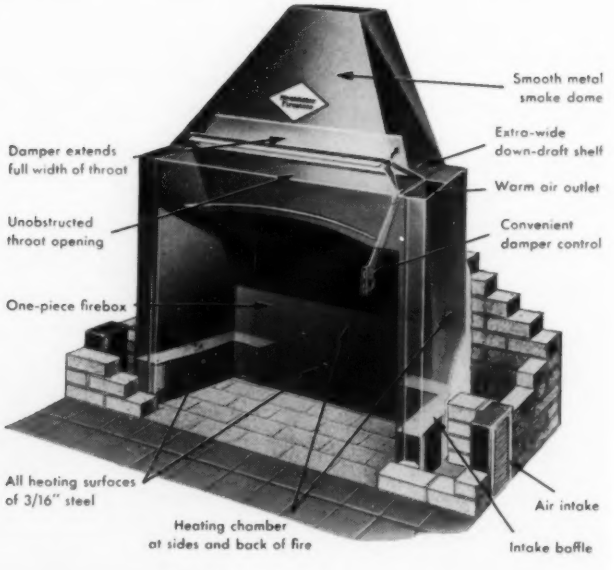
FIREPLACE



PORCELAIN ENAMEL—4: Fabrication Limitations

Prepared by Harold Edelman, A.I.A.,
Instructor at Pratt Institute

CHART A—METAL THICKNESS

Gauge	Width (inches)	Total Area (square feet)
24	6	½
24	12	*3
24	18	*5
22	6	1
22	12	3½
22	18	*6
22	24	*8
20	6	1½
20	12	5
20	18	*8
20	24	*10 to 15

** Should be embossed, flanged or otherwise suitably reinforced.*

Any shape which can be made in sheet metal can be made in porcelain enamel provided the following restrictions are met:

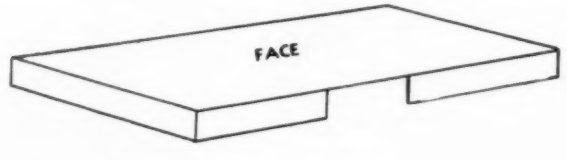
1. *Material* — Only enameling iron or steel should be used to preserve shape, strength and proper adhesion under the firing temperature.

2. *Holes* — should be drilled and cutouts for lights, doors, etc. made $\frac{1}{32}$ in. oversize in each direction ($\frac{1}{16}$ in. total) to allow for fill-in of the glass coating.

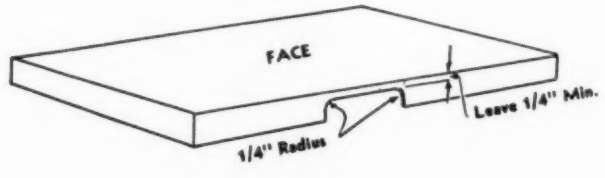
3. *Bends* — sharp corners are hard to cover with enamel which may form a heavy edge bead. Bends formed on too powerful a brake may fracture slightly and be hard to cover evenly. Where possible a radius of $\frac{1}{8}$ in. (minimum) or $\frac{3}{16}$ in. (usual) should be used for right angle bends which may be made to 93° or 95° for tight fitting flange joints.

4. *Flanges & Formed Edges* — (See "Sizes" for dimensions.) Flanges are required for stiffening and fastening and should *never* be notched, drilled with excessively large holes or be incomplete along one side except as shown in Figure 1. All these conditions set up stresses that may cause damage to the porcelain enamel surface. Stiffener braces should *never* be welded across the back of the panel as the extra thickness of the material will create different rates of expansion under firing and cause the sheet to buckle. Flange corners should be welded and ground smooth.

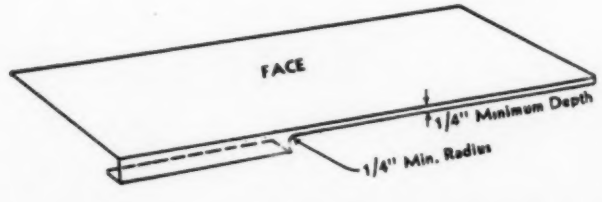
FLANGE CUTS



POOR— shipping and hairline will occur on face near cutout



GOOD—



NOT RECOMMENDED— hairlining & shipping may occur

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the Quality suspension system for acoustical tile installations. **Engineered for the construction industry.**

Securitee Tee-bars and Clips are accurately fabricated of **24 gauge** rust resistant steel. ★ Tee-bar flanges and web are of **extra** width and height, assuring proper support for a true and level ceiling. ★ Securitee Clips are fabricated with a patented pressure flange that automatically locks against supporting channel for **additional rigidity.** ★ To prevent sagging acoustical ceilings, specify and insist on Securitee, the suspension system designed to give **outstanding structural strength.**

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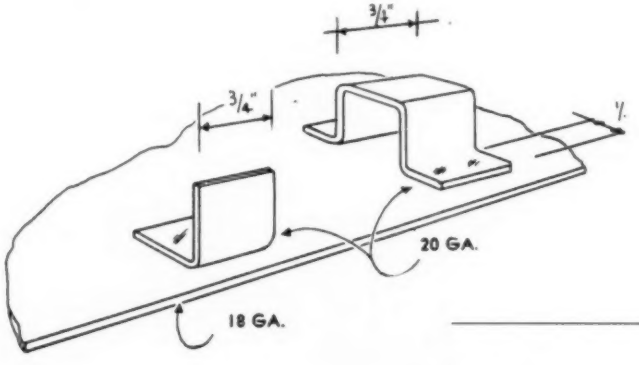
PORCELAIN ENAMEL—5: Fabrication Limitations

Prepared by Harold Edelman, A.I.A.,
Instructor at Pratt Institute

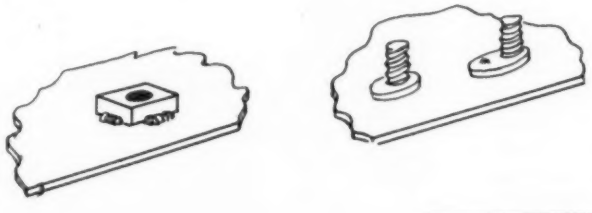
5. *Welding* — is used to build up the required shape and for securing clips and fastenings to the back of the sheet. Gas welding is the easiest and safest for continuous welds and should be done either by flowing the two pieces together or by adding a piece of the same material. It must be used only with light gauge material to prevent heat warping and excessive labor costs. Arc welding has only limited use because foreign materials in the welding rods make enameling difficult, gauges of material are too light to withstand the weld, and spatter results which must be cleaned off or it will show through the enamel. It is used for welds that will not show on the surface and then usually in tack or intermittent welds. Spot welding or other resistance welds are commonly used to attach flanges, lugs or clips to the back. Spots should be spaced about 1 in. apart. All welds should be designed to allow uniform expansion and contraction of large areas. Brazing cannot be used because enamel will not adhere to brazing materials. Soldering cannot be used because solders melt below firing temperatures.

Porcelain enamel sheets have been formed for use as: copings, sills, bulkheads, columns, pilasters, spandrel facings, louvers, wainscoting, bathroom walls, suspended ceilings, etc.

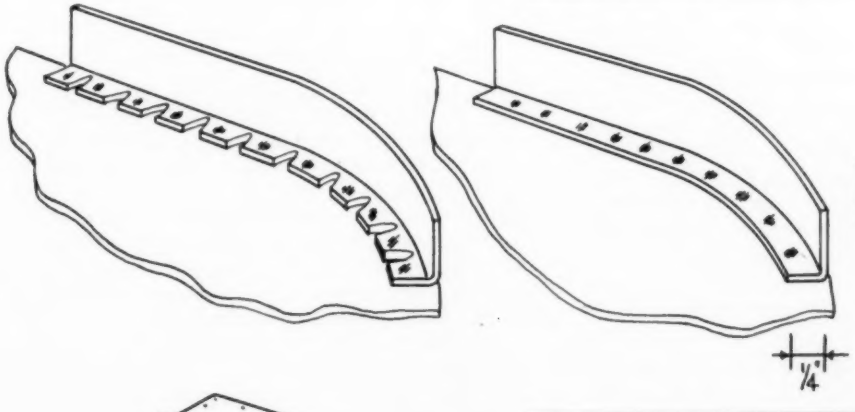


SPOT WELDING

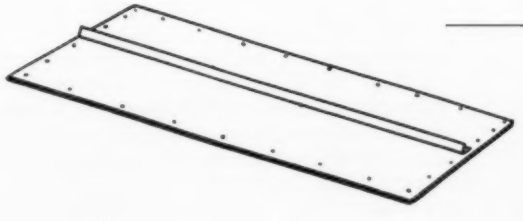
SPOT WELDED CLIPS
Proper method of attaching clips to rear



WELDED NUTS
Satisfactory only with small nuts



SPOT WELDED FLANGES
Proper method of attaching to rear



SPOT WELDED STIFFENER BRACE
No good

One of a series of papers prepared by leading authorities on air conditioning. The opinions and methods presented are those of the author and are not necessarily endorsed by the Du Pont Company. Reprints of this, and other articles in the series, may be had free upon request.

AIR CONDITIONING THE MODERN AUDITORIUM

by Samuel R. Lewis, Consulting Mechanical Engineer,
Samuel R. Lewis and Associates, Chicago, Illinois

SAMUEL R. LEWIS is a practicing consulting mechanical engineer in Chicago. He is past president of the American Society of Heating & Ventilating Engineers. He is a member of the American Society of Refrigerating Engineers, Chicago Association of Consulting Engineers, Western Society of Engineers and National District Heating Association. He has designed the successful air conditioning plants for many places of assembly, such as theaters, auditoriums and places of worship. He is author of several textbooks covering the design of complete air conditioning systems.

Church auditoriums, school assembly halls, theaters and other public meeting places generally require mechanical ventilation. To insure comfort, nearly all structures of this type now make use of some means of removing excess heat and moisture from the air.

Since heat from each occupant of a structure approximates half as much as that from a lighted candle (about 650 Btu per hour at 70°F.), temperature and relative humidity build up rapidly in crowded rooms. For example, the adjusted total heat gain based on normal percentage of men, women and children is estimated at from 330 to 350 Btu/Hr in occupied theaters. Unless corrected, this condition may cause such discomfort that the result may restrict use of the place.

In theaters where the performance is continuous, audience changes are gradual. There is little or no opportunity for periodic aeration. The same is true of most auditoriums, concert halls and the like. It is somewhat less true of school assembly rooms, churches, clubs and other gathering spots in which recesses or intermissions may allow some measure of ventilation at fairly frequent intervals.

IMPORTANT FACTORS

There are many factors to be considered in planning an effective air conditioning system: floor area of the auditorium, building height, total cubage, seating capacity, doors, windows and their exposure, roof construction and the possible effect of solar heat. Heat gain from lights, projection booths, motors and other equipment may necessarily influence the type and size of air conditioning system required. Areas adjacent to the main auditorium, such as offices, rest rooms, corridors, foyer, dressing rooms, refreshment stands, storage rooms and the stage itself often present a problem that must receive special consideration. In some instances, supplementary equipment may prove most satisfactory; in others the better plan may be an over-all central-system installation. It is generally best to discuss with a refrigeration engineer the relative merits of both systems.

A central system will require a suitable machine room in the basement or other available space, whereas unit air conditioners may be placed in strategic locations throughout the structure. Water, drainage and power facilities must also be considered, as the availability of these services may affect plumbing and wiring installations and their cost.

Speech Theater, University of Oregon, seats 400. A completely air conditioned auditorium of modern design.

ESTIMATING REQUIREMENTS

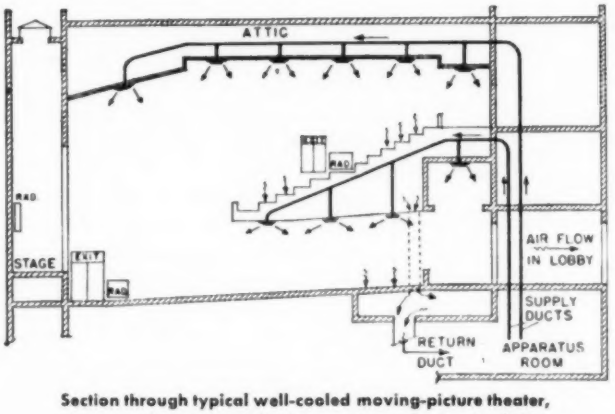
An auditorium with a seating capacity of about 500 persons, situated in a zone of normal average temperature, will probably require year-round air conditioning. To provide for peak loads during hot seasons, a 35-ton central system might be indicated. On the other hand, two or more air conditioning units totaling 30-ton capacity may prove entirely adequate and might affect a saving both in equipment and installation costs.

In either case, early plans should include the possible arrangement of ducts required, intake and exhaust vents, blowers, cooling fans, and suitable housing for such equipment.

In whichever type of plant is used, provision should be made in the architectural design for air supply and exhaust ducts and for diffusers and grilles intelligently located in the walls, ceiling and floor. Space must be allotted for the machinery, particularly with consideration of noise and vibration from compressors, fans and pumps.

LOCATING DUCTS, VENTS

Location of air-supply inlets and spent-air outlets from the rooms is exceedingly important to provide proper air distribution. Experience has shown that persons in an auditorium will become draft-conscious and will voice complaints if air at appreciable speed presses against their backs. Similarly, there should be no strong air currents cooler than average environmental temperature flowing at floor level.



Section through typical well-cooled moving-picture theater, showing downward-diffusion system of air circulation ... from the 1950 Refrigerating DATA BOOK, Applications Volume, by courtesy of the American Society of Refrigerating Engineers.

Reception of ventilating air generally is most beneficial if it enters the auditorium through diffusers in the ceiling or walls that allow the air to move toward the faces of the audience. Air-exhaust openings should be at low velocity and may be located in the floor under seats or around the side and rear walls. Outlets may also be constructed overhead. In hot weather, particularly, rising warm air encounters heavier cool air which falls slowly toward the floor. In cold weather, however, it may be more desirable to exhaust warm air at floor level rather than overhead.

An auditorium may be so located that passing traffic of one kind or another creates a noise problem. This may necessitate a choice between closed windows with risk of overheating, or open windows and unacceptable sound communication from exterior sources. In such cases, installation of a complete air conditioning system becomes more attractive psychologically and financially than to seek another location for the structure.

No physical difficulties will be encountered, as a rule, in extending an existing mechanical ventilating system (which is only partially an air conditioning plant), into a complete system. Air generally is cooled by contact with a surface or substance less warm than the air. This may be a liquid, such as water, or tubes of metal such as aluminum, steel or copper, with expanding refrigerant such as "Freon" on the side of the tube not exposed to air. As the temperature of the air is reduced, its volume becomes smaller. The water vapor that is part of the air condenses on the cool surfaces or increases the volume of chilled water in the cold liquid sprays that sometimes are employed.

It follows that air condensed in volume by refrigeration and introduced into the room must be expanded without restoring its original moisture. Air too cool for human comfort must be reheated to a comfortable temperature warmer than the dew-point temperature, without losing the ability of the air to evaporate moisture. This dew-free air may be warmed a few degrees before it enters the room without restoring the invisible water vapor that fell out as dew. The dry air, still cool, then

Air conditioned auditorium at New Canaan (Conn.) Elementary School also has seating capacity of 400.

removes excess heat from the room. Heat to expand the air after it has been condensed, may come from part of the warm air in the auditorium that otherwise would be exhausted outdoors, or it may come from steam, hot water or electricity.

No inflexible rules can be given for air conditioning any entire auditorium. Requirements differ in every case. However, analysis of the individual problem should help determine the total refrigeration needed and should indicate whether the system should be of the central or multiple-unit type.

★ ★ ★

Whatever the job of air conditioning or refrigeration, there are now available many excellent units of equipment. Selections can be made that will exactly meet almost every specific requirement. The machines are made by well-known manufacturers, and their representatives will gladly cooperate with architects and engineers on any problem of this kind ... offering complete information about various models of equipment.

It will generally be found that most machines recommended for the air conditioning and refrigeration needs of structures serving the public are charged with "Freon" refrigerants. This is important for the reason that these refrigerants are safe ... noncombustible, nonexplosive, virtually nontoxic ... and harmless to fabrics, finishes and furs. In addition, "Freon" refrigerants are scientifically produced by laboratory-controlled methods of manufacture that insure their chemical purity. This, in turn, contributes to the economical, and trouble-free performance of the system over a long period of time. It is a plus value that represents added protection for the owner. It safeguards his investment in the property.

Still another important reason for specifying "Freon"-operated equipment is that these refrigerants meet all building-code and safety-code requirements, such as B9.1—1950 ASA Standard. You can always render a real service to your client by recommending such systems. E. I. du Pont de Nemours & Co. (Inc.), "Kinetic" Chemicals Division, Wilmington 98, Delaware.

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150th Anniversary
BETTER THINGS FOR BETTER LIVING ... THROUGH CHEMISTRY
"FREON" SAFE REFRIGERANTS
KINETIC
"Freon" is Du Pont's registered trade-mark for its fluorinated hydrocarbon refrigerants

"Top security"
lock construction for
your clients

In removing the cylinder of a Russwin "Stilemaker" heavy-duty Cylindrical Lock for re-keying, no key is needed . . . an extremely desirable feature in "top security" installations.

"Top security" lock construction is only one of many "Stilemaker" advantages that assure client satisfaction over the years. Complete data on Russwin "Stilemakers" is available from your Russwin Distributor. Russell & Erwin Division, The American Hardware Corp., New Britain, Conn.

Engineered to Architects' Specifications

All Popular Functions

Knob Styles . . in wrought or cast bronze or brass

RUSSWIN
"Stilemaker"
BY THE MAKERS OF THE ORIGINAL KEY-IN-THE-KNOB LOCK

PRODUCTS (*Continued from page 189*)

cut heating costs and keep the interior cooler in summer. All exposed surfaces of the house, inside and out, are treated with phenolic resins for additional protection.

Designed primarily to help meet the changing needs of defense production areas by providing an alternate to both trailer-camp living and fixed-to-site housing, the houses employ no critical materials and, according to the manufacturer, present no site foundation or erection problems. The units are delivered from factory to site with everything in place. Kitchen and bath plumbing and power facilities can be easily connected to master pipes and lines at the site. Foundations may be either wood post or concrete.

Equipment furnished with the houses includes range with four burners and oven, 4.2 cu ft refrigerator, sink, water closet and tank, lavatory, tub and shower combination, 20 gal. gas-fired hot water heater and semi-automatic washing machine. Heating is from a bottled gas control forced hot air furnace.

The three component units of the house can be arranged to permit many floor plans and exterior designs to suit individual tastes of occupants. Pressed Steel Car Co., Inc., 6 No. Michigan Ave., Chicago, Ill.

New Summer Carpet Line

Alexander Smith, Inc. is presenting an assortment of new carpet colors, designs and patterns for the summer markets. The new colors, chosen as a result of a survey of dealers and consumers, are madeira brown, Florentine red, aquatone, nocturne gray, limefrost green, greige and copper rose. They will appear in Dominion, Shoreham and Twist qualities.

Two fabrics made in carpet rayon are being introduced and reportedly will be moderate in price. New patterns have been added to Smith's Riverdale and Dominion qualities and to the Princess Cotton group, and Dalistan, a new collection of three domestic Orientals, will be available. Alexander Smith, Inc., 295 Fifth Ave., New York, N. Y.

PRODUCTS

Surveying Equipment

Comprised of four instruments, a moderately-priced line of surveying equipment has been introduced by *Berger*. Known as the "N" line, the new group includes a convertible transit-level, a heavy-duty 12 in. dumpy level, a service transit level (farm level) and a hand level. The instruments are constructed of brass and bronze, and feature a simplified design said to make for rugged construction, ease of use in the field and moderate cost, all without sacrifice of necessary required precision.

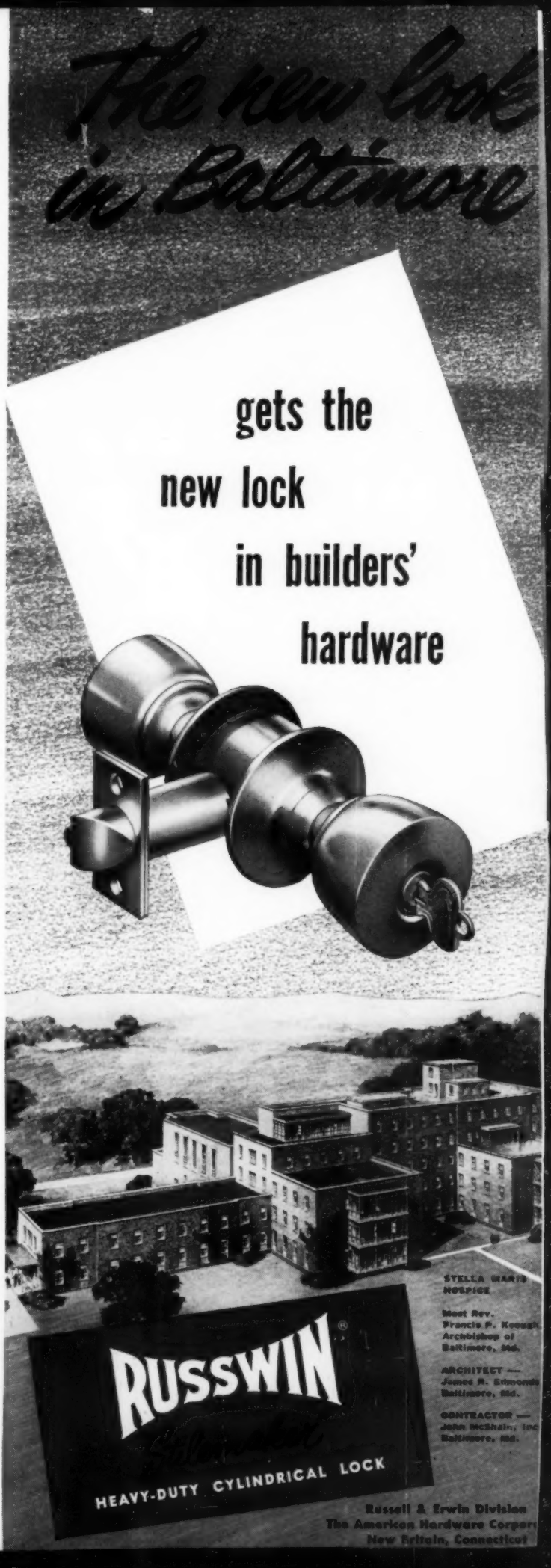
Both the convertible transit-level and the dumpy level feature 12 in. erecting-internal focusing, hard bronze telescope, rack and pinion adjustment, 22 power

Convertible transit-level has simplified design for durability, low cost

coated optics and steel spindle. Verniers read to five minutes and leveling, clamp and tangent screws are dust-protected. The horizontal circle on the dumpy level is graduated in single degrees.

The service transit-level combines a 10 power, 10½ in. erecting telescope, rack and pinion focusing, cross hairs in fixed focus and dust protected bearings. The hand level reportedly has stabilized internal focusing and an interior permanently-mounted level vial. All parts are said to be permanently fitted so that they cannot go out of adjustment. The instrument is 6½ in. long and has an attached neck cord. C. L. Berger & Sons, Inc., 37 Williams St., Boston 19, Mass.

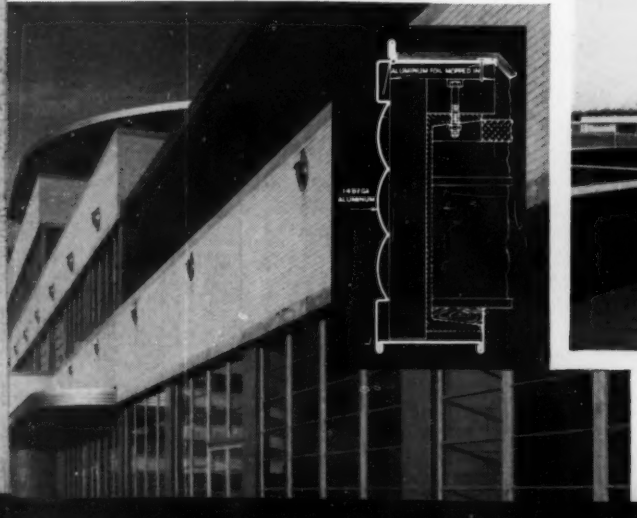
(*Continued on page 206*)

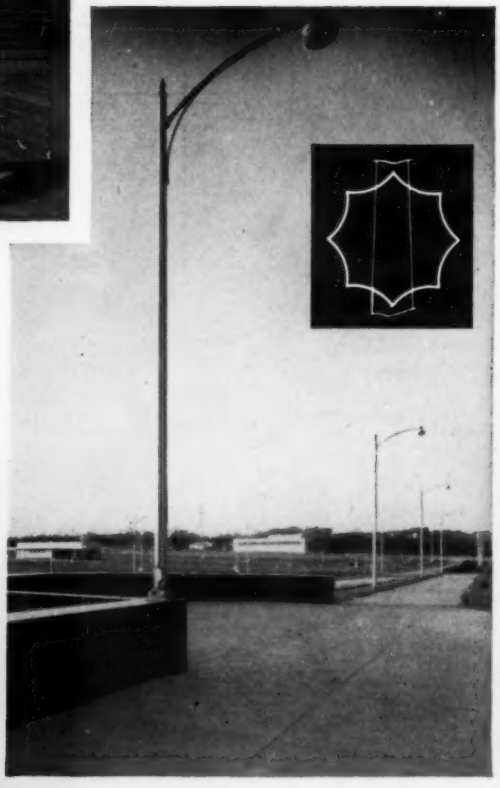

The new look in Baltimore
gets the new lock in builders' hardware
STELLA MARIS HOSPICE
Most Rev. Francis P. Keough Archbishop of Baltimore, Md.
ARCHITECT — James R. Edmunds Baltimore, Md.
CONTRACTOR — John McShain, Inc. Baltimore, Md.
RUSSWIN
HEAVY-DUTY CYLINDRICAL LOCK
Russell & Erwin Division
The American Hardware Corporation
New Britain, Connecticut

EVERY EXPOSED M

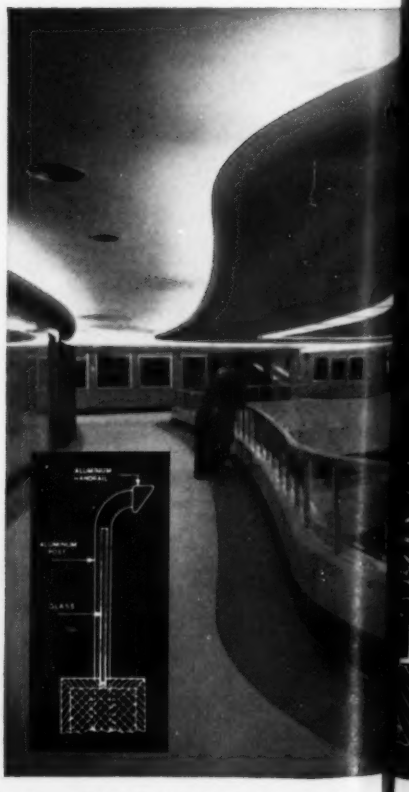
Aluminum luminaires light this public terrace outside the glassed-in main dining room.

Marquee, windows and spotlights employ Alcoa Aluminum at this passenger service entrance.



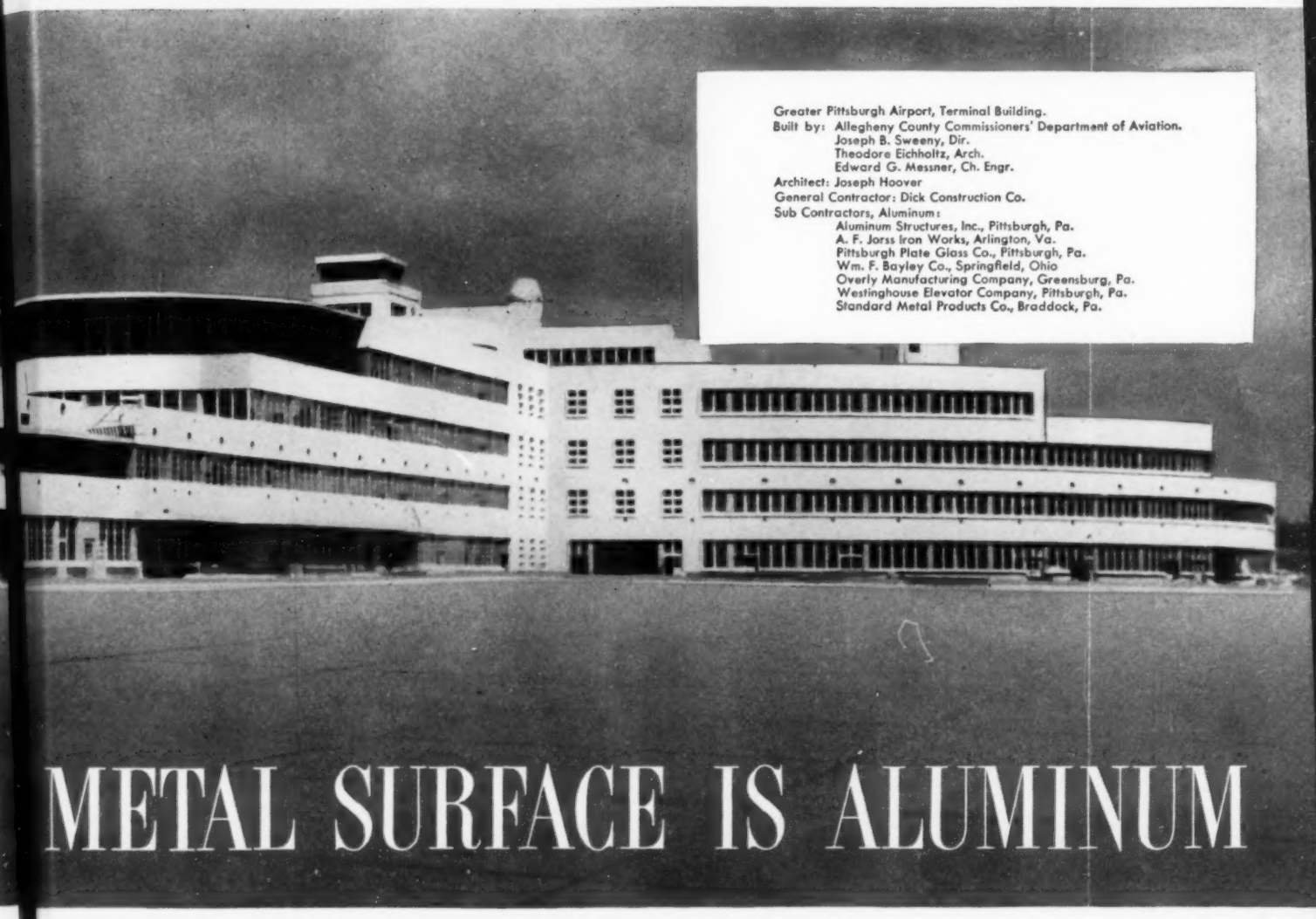


Aluminum light standards dot the approaches to the administration building and light the public parking area.



In the marble-faced rotunda there are two levels guarded by aluminum railings. Shop display windows are all framed in aluminum. Electric stairways trimmed in aluminum serve these floors.

Both the pilot
el walls. Win



Greater Pittsburgh Airport, Terminal Building.
Built by: Allegheny County Commissioners' Department of Aviation.
Joseph B. Sweeny, Dir.
Theodore Eichholtz, Arch.
Edward G. Messner, Ch. Engr.
Architect: Joseph Hoover
General Contractor: Dick Construction Co.
Sub Contractors, Aluminum:
Aluminum Structures, Inc., Pittsburgh, Pa.
A. F. Jorss Iron Works, Arlington, Va.
Pittsburgh Plate Glass Co., Pittsburgh, Pa.
Wm. F. Bayley Co., Springfield, Ohio
Overly Manufacturing Company, Greensburg, Pa.
Westinghouse Elevator Company, Pittsburgh, Pa.
Standard Metal Products Co., Braddock, Pa.

METAL SURFACE IS ALUMINUM

Both the pilot tower and theodolite have insulated aluminum panel walls. Window frames and guardrails, too, are of aluminum.

When your aluminum transport next lands you at the new Greater Pittsburgh Airport, you'll find aluminum at work on the ground, too.

Designers with an appreciative eye for the efficient use of materials will see aluminum's advantages of strength, corrosion resistance, conductivity, workability and lasting good looks applied in hundreds of places. On the runway, in the control tower, in the great terminal building and the acres of parking area. In lighting, flashing, windows, doors, railings, ducts, walls and hardware.

The next building you plan, consider aluminum for places exposed to wear and weather, wherever maintenance will be a problem; wherever you want distinctive appearance and lasting good looks.

For information on any application of aluminum, call your local Alcoa sales office or write:

ALUMINUM COMPANY OF AMERICA
1888-G Gulf Bldg. • Pittsburgh 19, Pa.

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FIRST IN ALUMINUM

NEW smoothness... NEW efficiency
in powder-actuated fastening...

Ramset
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ANOTHER
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Designed
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SEE THESE
NEW FEATURES:

- 1-PIECE TOOL, *for faster loading*
- TRIGGER ACTION, *for easy operation*
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- ANGLE-FIRE CONTROL, *for straight penetration*
- VISI-CHEK BUTTON, *for quick inspection*
- *Plus exclusive, proved-in-use ROTO-SET SAFETY SHIELD, for accurate positioning*

Faster, lighter, easier handled, the new RAMSET JOBMASTER sets a record pace for steel and concrete fastenings. Properly trained workmen quickly become skilled operators because of smooth, simple, natural motions of loading, placing, firing. Positive controls bring improved accuracy and efficiency . . . and still lower fastening costs. Ask your dealer for demonstration of how RAMSET's years of pioneering have made the new JOBMASTER the proved-in-performance leader.

Ramset Fasteners, Inc.
12117 BEREA ROAD • CLEVELAND 11, OHIO

Product Patent No. 2470117. Other Patents Pending.

DON'T HAND SET...
Ramset WITH TRU-SET FASTENERS

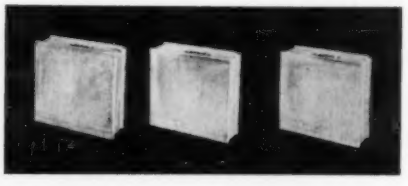
Ask for Demonstration TODAY!

PRODUCTS

(*Continued from page 203*)

Larger-Size Glass Blocks

Three new 12 in. blocks have been added to the *Pittsburgh Corning "55"* line of functional glass blocks for light control. Advantages of the larger size are reported to include a new architectural scale and waste-free construction economy. The blocks also feature a double cavity, for reduced solar heat in summer and greater heating economy in winter, and orientation keyed design, said to result in higher light transmittance for north exposures and lower brightness on sunny walls. They may be



12-in. functional glass blocks permit economies in construction

combined in various ways with matching 8 in. functional patterns.

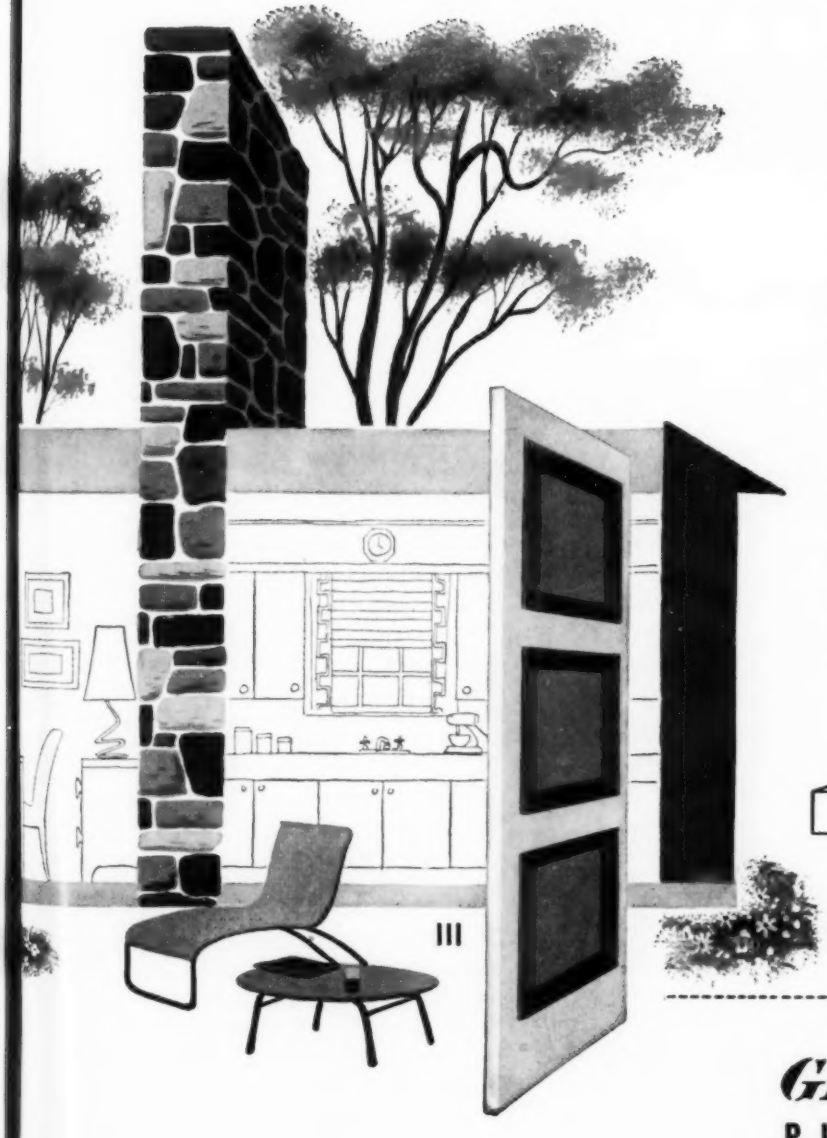
The new blocks are made in the following patterns: The PC Prism A 55, a light-directing block for highest light transmittance in non-sun elevations; the PC Soft-Lite Prism B 55 LX, a light-directing block for use in sun elevations where great brightness control and reduced heat gain are desired; and the PC Soft-Lite Essex B 55 LX, a light diffusing block for use in stairwells and other areas where well-diffused light is required, and also for use below eye level in panels of light-directing glass block.

The 12 in. functional patterns are said to weigh less than ⅓ as much as an 8 in. concrete building block, yet provide 12.5 per cent more wall area, take only one half as much floor space, have better insulating value and require no costly finishing on the job. Pittsburgh Corning Corp., 307 Fourth Ave., Pittsburgh 22, Pa.

(*Continued on page 210*)

Doors

custom styling that costs so little . . . gives your customers so much



Now . . . a custom-styled panel door that's in tune with modern design. G-P Decorator Doors lend themselves beautifully to remodeling plans for the traditional home—creating dramatic modern accents. In new construction, they offer a new medium of expression permitting you to include doorways in your designs—achieving a new unity of harmonious lines and colors. You can specify G-P Decorator Doors for *exterior* or *interior* use as there's a complete range of sizes and grades.

Budget prices bring to your clients the extra beauty of doors that lend themselves to dramatic color combinations. Be sure to specify G-P Decorator Doors. See your lumber dealer or write for the new G-P Decorator Door Folder. Georgia-Pacific Plywood Company, 608-7C North Capitol Way, Olympia, Wash.

Available in either raised or flush moulding

RAISED FLUSH

GEORGIA—PACIFIC

PLYWOOD COMPANY

OFFICES OR WAREHOUSES IN: Augusta, Birmingham, Boston, Chicago, Cleveland, Columbia, Detroit, Lancaster, Louisville, Memphis, Nashville, Newark, New Hyde Park, New Orleans, Olympia, Orlando, Philadelphia, Pittsburgh, Providence, Raleigh, Richmond, Savannah, Vineland.

DOUGLAS FIR PLYWOOD • HARDWOOD PLYWOOD • GPX • SOUTHERN & WESTERN LUMBER • DOORS

For Gleaming, Corrosion-Resistant Interiors

Cuts Your Material Costs
Puts New Beauty in Your Designs

Wondering how to make a new interior *completely* modern—or put new beauty in an old one? PERMACLAD Stainless Clad Steel may be your cost-cutting answer.

We make PERMACLAD by diffusion-welding a layer of stainless steel *inseparably* to a mild carbon steel backing. *Result:* PERMACLAD has the lasting, corrosion-resistant beauty of solid stainless and the cost-cutting, easy-forming qualities of mild steel.

The stainless layer is usually 10% or 20%, but may be more or less if desired. Also, reduction of weight is possible through the use of A.W. DYNALLOY, low-alloy, high-strength steel as a backing in place of ordinary mild carbon steel.

Doors, panels, escalators, wall panels, and interiors of all kinds can be fabricated easily with PERMACLAD. For technical data write for our free, 8-page Booklet P-88. Our engineering staff will be glad to talk with you about any specific problem and make installation suggestions.

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PERMACLAD Stainless Clad Steel

ALAN WOOD STEEL COMPANY

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Gentlemen: Please send me additional information on PERMACLAD Stainless Clad Steel—and a copy of your free, 8-page Booklet P-88.

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Other Products: A.W. ALGRIP Abrasive Floor Plate • A.W. SUPER-DIAMOND Floor Plate • Plates • Sheets • Strip • (Alloy and Special Grades)

PRODUCTS

(*Continued from page 206*)

Packaged Electric Submersible Pump

Developed especially for domestic water supply systems, a new Model B ¾ hp, 4 in. *Sumo* electric submersible pump is furnished as a ready-to-install packaged unit. The pump comes complete with a heavy-duty natural-rubber-jacketed electric cable and a motor control-box with built-in motor protective device. Installation is accomplished simply by lowering the close-coupled pump and motor unit down the well on the end of a riser pipe, mounting the control box in a convenient location and making necessary piping and wiring connections. Operation is noiseless, since both pump and motor operate completely under water.

Submersible electric pump is packaged ready-to-install, operates noiselessly

The compact size of the new pump is said to permit its employment in wells as small as 4 in. in diameter, and also in crooked wells. Capacities range from 520 gph at 150 ft total head to 100 gph at 320 ft. The corrosion-resistant construction is of bronze and stainless steel. Sumo Pumps, Inc., Stamford, Conn.

(*Continued on page 214*)

A completely new concept in noise control!

At last, an acoustical ceiling that excels on every count, whether for an elaborate office or a large industrial area! It's what architects have sought for schools and hospitals. Yet this system is also practical for large factory spaces where accessibility, incombustibility, fast installation and low cost are all essential. For the first time the important safety measure of noise reduction can be achieved *in industry,* where increased efficiency will pay the low cost many times over!

Reynolds Aluminum Acoustical System is distributed through specially appointed franchise applicators trained in the acoustical field and equipped to render dependable engineering service, to give reliable free estimates, and to assure efficient, economical installations. Military needs for aluminum limit the supply but aluminum capacity is rapidly expanding. *For the name of your nearest applicator,* together with printed literature, write to

Reynolds Metals Company Building Products Division, Louisville 1, Kentucky.

Low cost...by fast, large-sheet installation!

Unsurpassed noise reduction...up to .90, with efficiency uniformly high at all frequencies.

Unlimited access to ductwork, plumbing, wiring—any section movable at will!

Permanent beauty with minimum maintenance...rustproof, corrosion-resistant panels that can be taken down for cleaning!

Low Weight—less than half a pound per square foot!

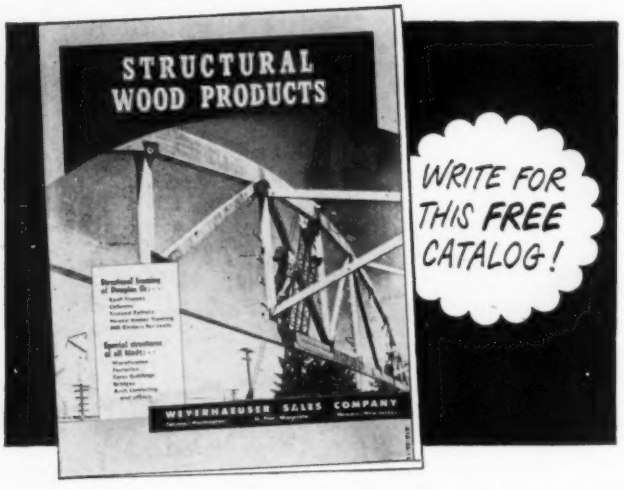
Modern Design—eye-pleasing corrugations in straight-line or pattern effects.

Adaptability to any heating, ventilating and moisture-conditioning equipment.

REYNOLDS METALS

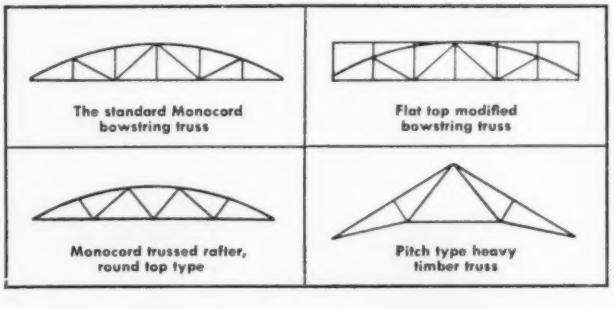
ACOUSTICAL SYSTEM

Structural Wood Framing Systems *by* Weyerhaeuser



● This book illustrates and describes structural wood products that are precision-fabricated by Weyerhaeuser. It features a variety of types of roof trusses: bowstring, flat top, tandem, and pitched, for post-free, clear-span buildings, 30 feet and wider . . . round top and pitched type trussed rafters . . . segmental arched rafters for 30 to 50 foot spans . . . buttressed arches for 50 to 100 foot spans . . . girders and other wood structural systems.

These products are fabricated from stress graded Douglas Fir lumber and delivered to the job site complete with hardware, ready for erection by local crews. The catalog includes pertinent engineering and design data. Write our nearest office for the catalog and other information.


The standard Monocord bowstring truss
Flat top modified bowstring truss
Monocord trussed rafter, round top type
Pitch type heavy timber truss

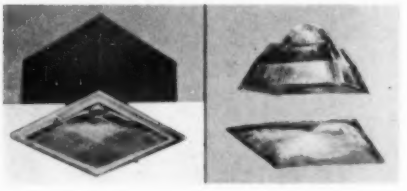
WEYERHAEUSER
SALES COMPANY
FABRICATION DEPARTMENT
SAINT PAUL 1, MINNESOTA
TACOMA, WASH. NEWARK, N. J.

PRODUCTS

(*Continued from page 210*)

Low Brightness Incandescent Fixture

Described as a new concept in incandescent lighting, a *Holophane* low brightness recessed luminaire utilizes a square prismatic reflector with a concave Controlens to focus high brightness on the near side of the lens from any normal viewing angle, where it will be shielded from the observer. The near side recedes



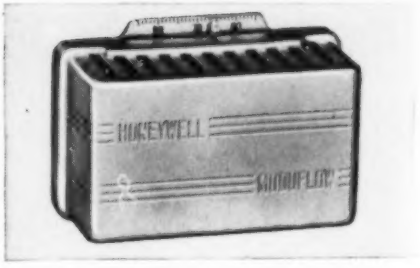
Concave lens produces uniform, low-brightness light over entire surface

from the observer's view owing to the concavity of the lens, and the result is reported to be uniform low brightness over the entire surface. Known as the F-1570 the new fixture is said to facilitate better transmission of both direct and reflected light, resulting in unusually high output of both. The reflector has a dome-shaped top section with an opening for side entrance of the lamp. This is said to reduce the overall depth of the luminaire and minimize the amount of light lost in the gap between lens and reflector. Holophane Co., Inc., 342 Madison Ave., New York 17, N. Y.

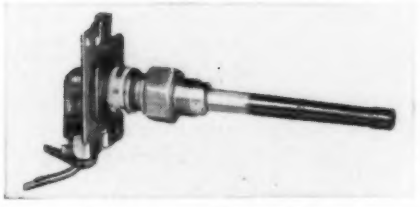
Plastic Wall Tile

Available in a large variety of attractive colors, *Peertile* is a newly introduced plastic wall tile for the bathroom, kitchen, rumpus room, breakfast nook or service porch. Peertile can be installed over any smooth wall, old or new, in a matter of hours, and it is claimed to be resistant to chipping, cracking, peeling, warping or staining and to be unaffected by moisture, ordinary acids and alkalies. Since the colors go all the way through the material, fading is said to be no problem. Peerless Plastics, 8490 Warner Drive, Culver City, Cal.

(*Continued on page 218*)



Room Thermostat. No moving parts to wear out or get out of adjustment.



Duct and Immersion Thermostat. Measures temperatures accurately from −50 degrees to 300 degrees F.

For all types of commercial and institutional structures, specify

Honeywell Electronic Air Conditioning Control

Give your clients the ultimate in comfort— and increased efficiency, lower maintenance costs

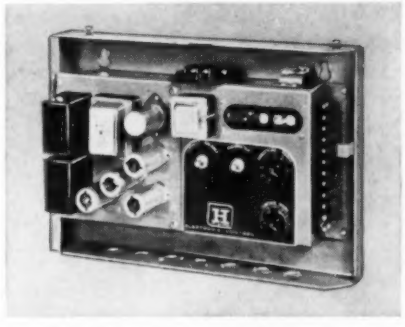
Now, this new type of air conditioning control enables you to offer clients comfort and efficiency never before possible!

You see, this new Honeywell system electronically "feels" temperature changes as they occur and then gives *fast*, accurate modulating control over heating and air conditioning dampers or valves.

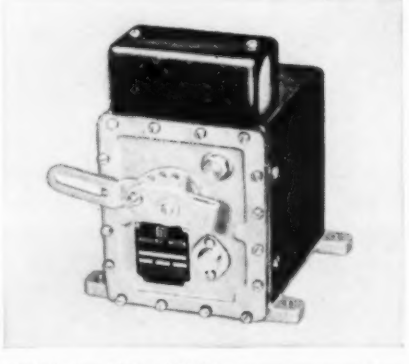
Because it is *electronic*, it's vastly more sensitive than other systems! This means faster reaction to load changes; no temperature "overshoot"; no waste of warm or cool air.

It *allows new methods of operation* so equipment can be utilized at *peak* efficiency at all times! For example, change-over from heating, ventilating and cooling is accomplished smoothly, without "jumps" in the control point. Its *flexibility* allows selection of the most economical sequencing of valves and dampers. And its *simplicity* cuts maintenance costs to a minimum.

Select this new Honeywell *electronic* air conditioning control to give your clients this wonderful comfort and low maintenance costs!



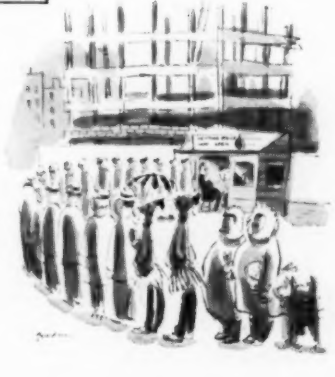
Electronic Relay. Here's the famous "brain" that measures thermostat signals, operates the valves and dampers.



Modulating Motor. Slightest temperature fluctuation causes motor to change valves or dampers.

MINNEAPOLIS
Honeywell

First in Controls



...applicants are coming from all over since they heard (your firm name) designed the building.

FREE—*personalized cartoon. For your 8½" x 9" reproduction of this Goodman cartoon (incorporating your name or the name of your firm), fill out and mail coupon today.*

MINNEAPOLIS-HONEYWELL REGULATOR CO.
Dept. AR-7-155, Minneapolis 8, Minnesota

☐ Please send me a free personalized reproduction of the Goodman cartoon, inscribed with the following name:

_____

☐ Please send me your booklet, "New Horizons of Comfort with Honeywell Electronic Air Conditioning Control."

*Name*_____

*Firm Name*_____

*Address*_____

*City*_____ *Zone*____ *State*_____

PRODUCTS

(*Continued from page 214*)

Garbage Disposal Unit

A recently perfected low-cost garbage disposal unit, the *Polverizer* reportedly can be easily installed with a minimum of extra fittings in any standard 3½ or 4 in. sink opening. The compact unit is 12 in. high — only 10 in. from top to middle of drain outlet — and generally does not require special planning to accommodate it in either old or new homes. An inclined-action cutting mechanism powered by a ¼ hp motor is said to quickly pulverize garbage and wash it away. The cutting elements are made of rust-proof steel alloys and are housed in a casing of the same material. Permanently-lubricated sealed bearings and rubber-cushioned mounting are said to insure quiet operation. An automatic shut-off prevents overloading.

The unit reportedly will handle even the most difficult kinds of refuse, including corn cobs, artichoke leaves and other items not usually handled by other types of disposal units. It is factory guaranteed for 12 months. Pioneer Polverizer Co., 3131 San Fernando Rd., Los Angeles 65, Calif.

Low-cost garbage disposal unit features compact size, easy installation

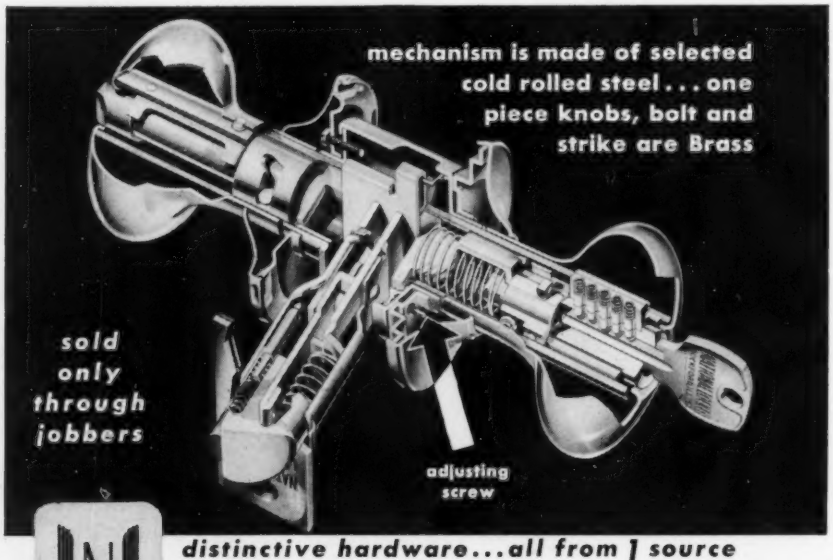
superior features make the big difference . . . in popular

NATIONAL LOCKset

Patent Applied

Quickly and easily adapted to any door thickness 1⅜" to 1¾"

NATIONAL LOCKsets normally used on interior doors are adjusted at the factory for standard 1-3/8" door thickness. Those normally used on exterior doors... for standard 1-3/4" door thickness. • Should it be desirable to change NATIONAL LOCKset for specific applications, this can easily be accomplished. Merely remove locking screw and turn escutcheon one complete cycle for each 1/16" increase or decrease in door thickness. Then replace and tighten escutcheon locking screw . . . quickly . . . easily.


mechanism is made of selected cold rolled steel . . . one piece knobs, bolt and strike are Brass
sold only through jobbers
adjusting screw

distinctive hardware . . . all from 1 source

NATIONAL LOCK COMPANY

Rockford, Illinois • Merchant Sales Division

Automatic Oil Furnace With Electric Ignition

A new line of *Iron Fireman* vaporizing oil burner wall and floor furnaces for small houses features an exclusive electric ignition system, according to the manufacturer. In combination with the usual room thermostat, the "igniter" is said to provide easy, economical control over combustion and temperature, while eliminating the necessity for a pilot light. Since burners operate only as heat is required, the smoke and heavy soot often encountered with pilot light ignition are reportedly eliminated in the new furnaces.

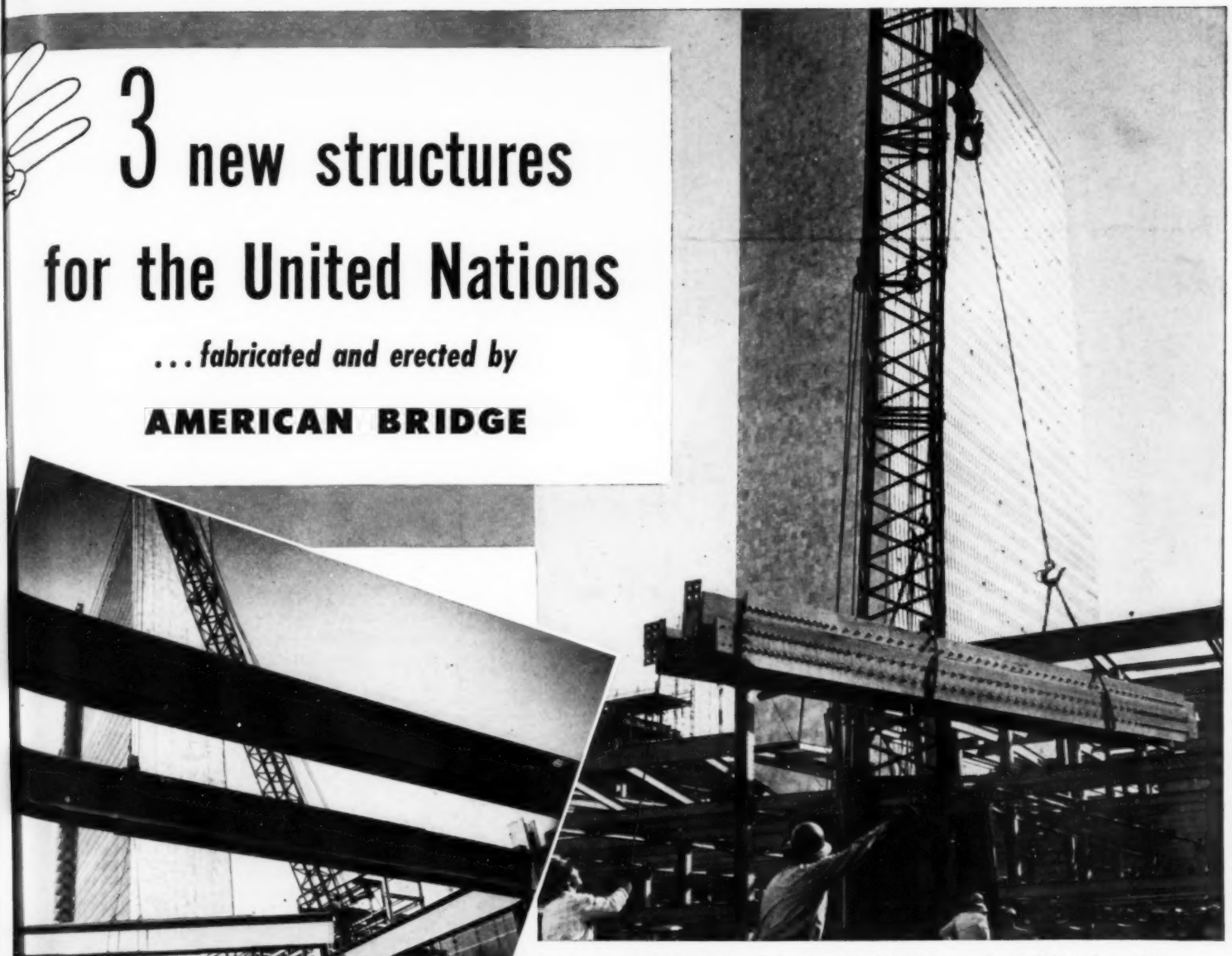
Floor and wall furnaces are available in models for shallow pit, basement or in-the-wall installations. All have the manufacturer's forced draft "Channel Flame" retort for efficient combustion. Wall furnaces have been approved for zero clearance and may be set safely against wood, it is reported. All the equipment carries the Underwriters' Laboratories seal. Capacities range from 50,000 to 85,000 Btu, and most models have forced air circulation. Conversion burners are included in the line. Iron Fireman Mfg. Co., 3170 W. 106th St., Cleveland 11, Ohio.

(*Continued on page 224*)

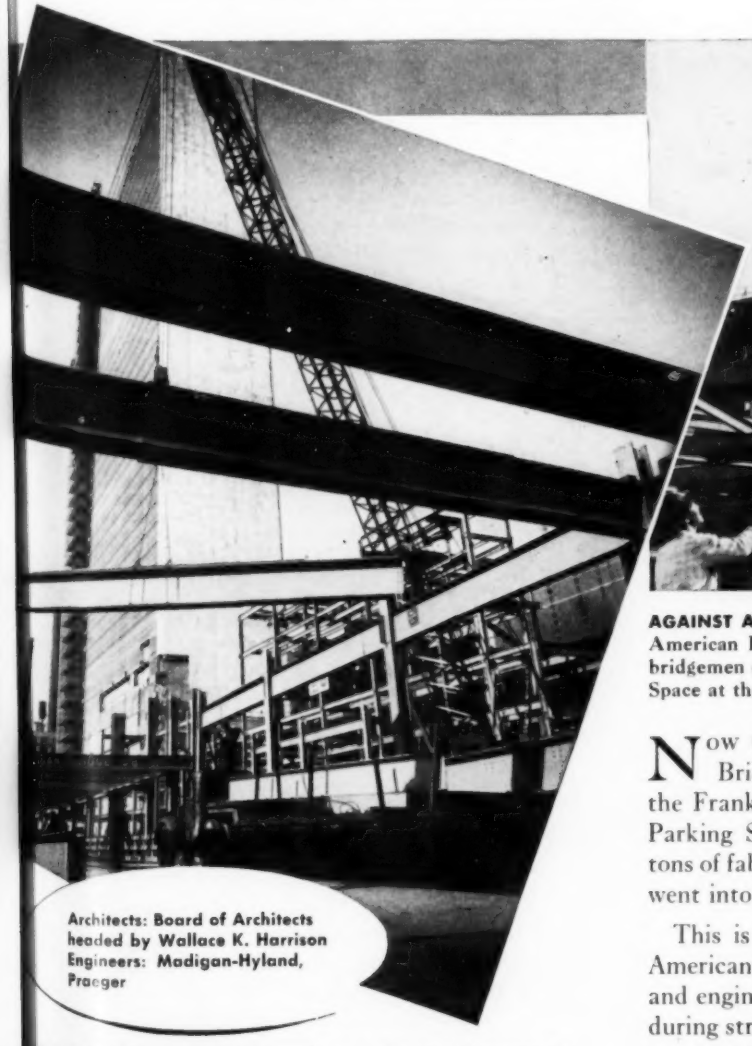
3 new structures for the United Nations

... fabricated and erected by

AMERICAN BRIDGE



AGAINST A BACKGROUND of the completed UN Secretariat Building, for which American Bridge fabricated and erected 13,800 tons of structural steelwork, two bridgemen direct the unloading of steel columns and beams for the North Parking Space at the UN site.



Architects: Board of Architects headed by Wallace K. Harrison
Engineers: Madigan-Hyland, Praeger

AMERICAN BRIDGE BEGINS erection of the steel framework for the cover of the Franklin D. Roosevelt Drive at the UN Headquarters. Eventually the entire drive from 42nd St. to 48th St. at East River will be covered. In the right foreground steel framework for the Meeting Halls Building can be seen. When completed, this building will extend, by cantilever construction, over the drive to the edge of the river.

AVAILABLE NOW! *For showing in churches, schools, clubs, and industries, the new sound and color motion picture—BUILDING FOR THE NATIONS—a candid, factual photographic record of the highlights of the fabrication and erection of the United Nations' Secretariat Building in New York City.*

Now that the UN Secretariat Building is completed, American Bridge is erecting the Meeting Halls Building and cover for the Franklin D. Roosevelt Drive, General Assembly Hall and North Parking Space. When finished, these structures will contain 18,600 tons of fabricated steel framework, in addition to the 13,800 tons which went into the Secretariat Building.

This is typical of how the time-tested and proved experience of American Bridge has been linked to the latest in modern architectural and engineering design to create structures of unusual beauty and enduring strength. Hundreds of steel-framed buildings all over the country are proof that for sturdy, economical structural work you can't beat rigid steel construction—and for varied experience . . . unexcelled facilities . . . trained personnel, you can't go wrong when you depend on American Bridge.

AMERICAN BRIDGE DIVISION, UNITED STATES STEEL COMPANY,
GENERAL OFFICES: 525 WILLIAM PENN PLACE, PITTSBURGH, PA.

Contracting Offices in: AMBRIDGE · ATLANTA · BALTIMORE · BIRMINGHAM · BOSTON · CHICAGO
CINCINNATI · CLEVELAND · DALLAS · DENVER · DETROIT · DULUTH · ELMIRA · GARY · MEMPHIS
MINNEAPOLIS · NEW YORK · PHILADELPHIA · PITTSBURGH · PORTLAND, ORE. · ROANOKE · ST. LOUIS
SAN FRANCISCO · TRENTON — UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS TRADE MARK

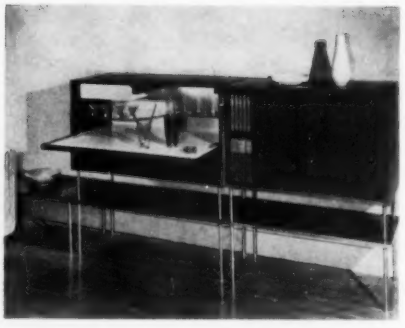
AMERICAN BRIDGE

UNITED STATES STEEL

PRODUCTS
(*Continued from page 218*)

Contemporary Case Pieces

Including storage chests, tables, beds, desks and fitted cabinets, the *Harvey Probber Case Pieces* perform a number of functions — being extremely flexible, yet compact. All of the items in the collection, which consist of more than 70 individual pieces, are constructed of mahogany and available in a choice of three finishes: a warm, darkly accented hazelnut in a smart brown tone; a mellow amber; and a contrasting bone finish. Textural and color accents are accomplished by using cane, white micarta and satin-black lacquer on the cabinet doors. Legs of the case pieces are of slender brass or matching slim mahogany dowels. Bases are available in three heights, affording a variety of arrangements. A number of variations in cabinet interior fittings makes no problem of storing such items as silverware, and shallow drawers with white micarta bottoms can double as trays. Harvey Probber, Inc., 136 Fifth Ave., New York, N. Y.

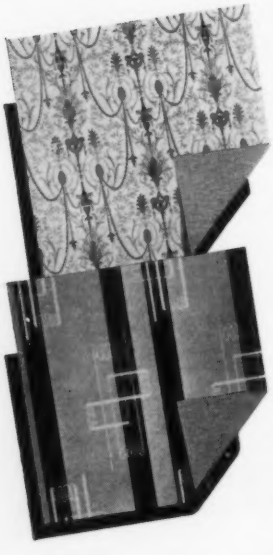


Integrated cabinets provide adequate storage, act as room dividers

CUT WALL DECORATION MAINTENANCE COSTS 67%

Mid-City Cocktail Lounge, Port Authority Bus Terminal, New York City. STYLON installation by Stone Construction Company.

with STYLON Handprints on Wall Canvas!



When the management of New York's ultra-smart Mid-City cocktail lounge sought a wall covering as durable as it is beautiful, the one selected was STYLON Handprinted Wall Fabric. And no wonder! Distinctive STYLON does *more* than create an atmosphere of sociability — it actually cuts the cost of maintaining wall decoration at least 67%.

Ten years from now the gay wall decoration in this beautiful lounge will reflect as much cheer as it does today, because STYLON's handprinted beauty lasts years longer. STYLON is a tough, *completely scrubbable* wall fabric so durable it eliminates frequent repapering and painting — even strengthens walls and provides positive plaster crack control.

Each unique STYLON design is printed by hand to secure the color clarity and richness possible *only* through fine handprinting. Such rare beauty and durability are yours *exclusively* with STYLON, the only handprinted wall fabric.

FREE: Send today for Stylon Specification B and sample swatches.

Wall Trends, inc.
Showroom: 509 Madison Avenue
New York 22, New York

Color Service for Builders

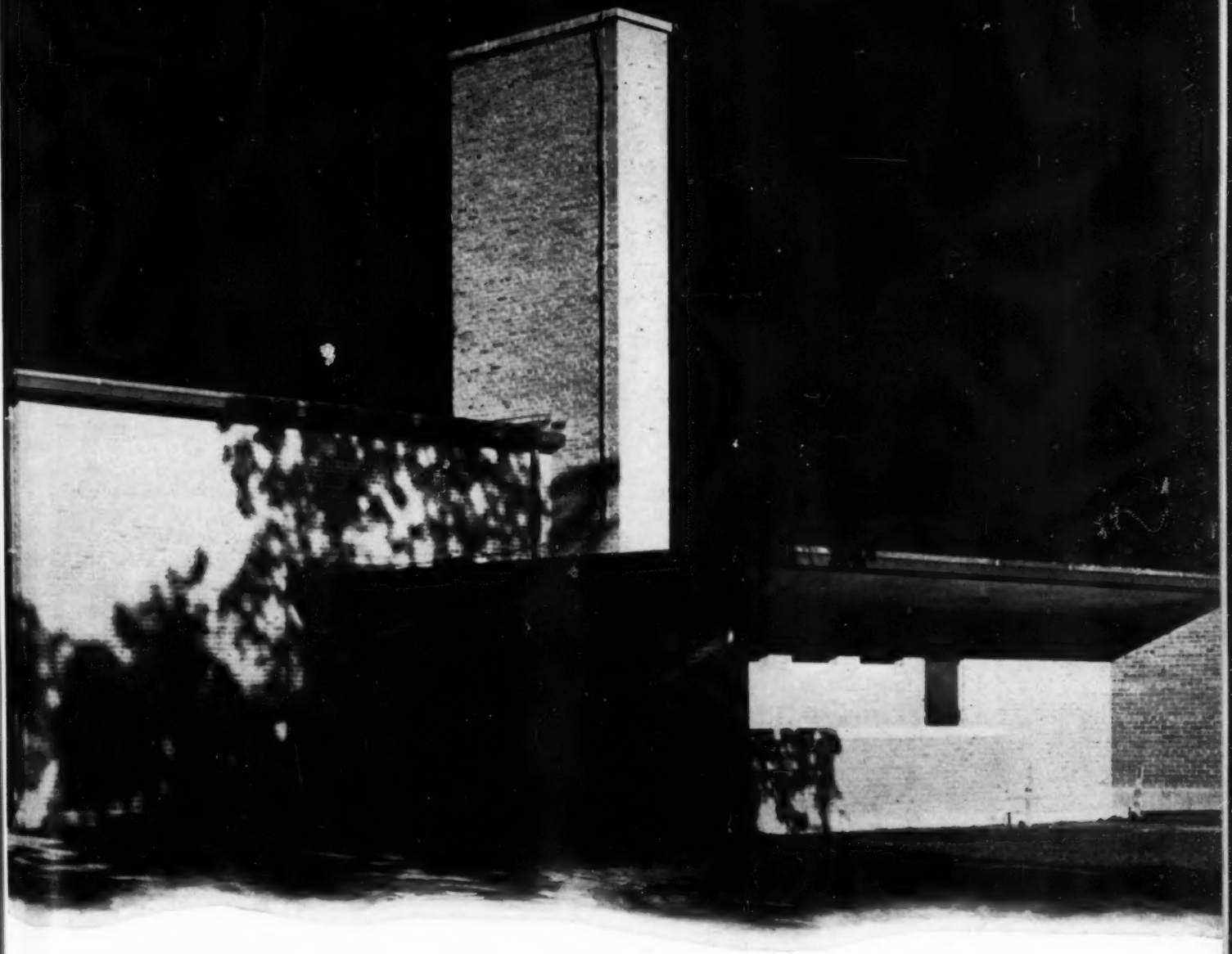
Working on the theme that color styling is an important "must" for buildings, ranging in size from small residences to industrial plants and department stores, *Beatrice West* offers a new type of service to those in the building field. Acting as color consultant for such jobs as the quarters at Westover Air Force Base in Massachusetts and Levitt & Sons' various housing projects, Miss West supplies her clients with folders containing suggested samples of all materials used for both exterior and interior of the house, such as asphalt roofing, asbestos shingles, wallpaper, paint, linoleum, etc. A complete working schedule for the entire development, whereby all materials may be purchased in advance, is also included along with a plot plan marked to indicate placement of color schemes. A recent exhibit of the service was presented at the Architectural League of New York. The Beatrice West Studio, 184 East 72nd St., New York 21, N. Y.

Picnic Grill

Draft control and proper heat distribution, important features in successful cookery, are claimed to be built right into the *All-American Picnic Grill*, due to a fully enclosed fire bowl with a six-way adjustable draft door. Supported on a steel pipe, the grill may be turned in any direction, permitting cooking to windward. The unit contains two waffle-type grids, affording a 25½ by 24-in. grilling and warming area, and a large one-piece oven for baking or warming. It has a one-piece removable grate and burns wood, coal or charcoal, and the cooking unit is easily removed for storage purposes. American Playground Device Co., Anderson, Ind.

(*Continued on page 228*)

is specifically edited



Primary School, Deerfield, Ill., first presented to architects and engineers in Architectural Record.

Architect-engineers: Perkins & Will, Chicago; Photographer: Hedrich-Blessing Studio.

Architectural Record

"Workbook of the active architect and engineer"

119 West Fortieth Street
New York 18, N. Y.
LOngacre 3-0700

F.W. DODGE CORPORATION

PRODUCTS

(*Continued from page 224*)

Easily Installed Cylindrical Lock

Immediate and easy conversion of any mortise type lock or latch into a modern decorative cylindrical lock is now possible with the *Security Knob-Lok*, according to the manufacturer. The knob and lock combination is reported to cost less than the usual price of a quality lock alone. Fitted with a Yale cylindrical lock, the product is said to be ruggedly built for lasting service. Installation requires no tools other than a screwdriver and eliminates all cutting, drilling or chiseling. All that is necessary is to remove doorknobs and insert the combination knob and lock in their place, attaching the new inside knob afterwards. The device is reportedly tamper-proof and cannot be sprung. It spins freely when locked, affording the protection of a night latch. Adaptable to both new construction and replacement, it is described as ideal for a wide variety of installations where a positive lock is required. Mastercraft Products, 212 Summer St., Boston 10, Mass.

Low-cost cylindrical lock can be installed in minutes with screwdriver

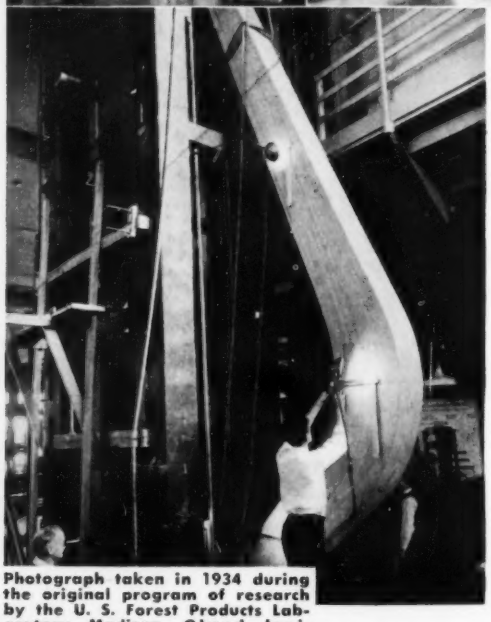
Odorless Paints in Full Color Range

A full-line of *Keystone* odorless interior oil-base paints is now available in a range of 175 colors. The manufacturer reports that continuous laboratory research has resulted in the successful development of the product in gloss, semi-gloss, flat, enamel, floor paint and varnish. Interior surfaces may now be painted, it is said, while people are occupying the same room. Where space limitations or other considerations make this impractical, it is possible to use the room immediately after painting, or within the few hours necessary for the surface to dry. The product is described as being of especial value to establishments where obnoxious paint odors would prove disturbing both to occupants and visitors, as well as be harmful to merchandise. Keystone Paint & Varnish Corp., 71 Otsego St., Brooklyn 31, N. Y.

Louvered Windows

Containing a removable aluminum screen with reinforced corners, the *Glass Louvered Window* controls ventilation and affords protection from the elements. Glass louvers are available in crystal, obscure or heat-resisting solex and come in 4 or 5½-in. widths. A silent roto operator adjusts the louvers to any desired position. Besides the Venetian window, Venetian doors are also available with aluminum, glass or wood louvers, plus a complete line of aluminum and glass jalousies for porch enclosures. Weathermaster Jalousie and Window Mfg. Co., P. O. Box 1068, Miami 6, Fla.

(*Continued on page 232*)



Photograph taken in 1934 during the original program of research by the U. S. Forest Products Laboratory, Madison. Glued, laminated arch frames built of "stress-graded" southern yellow pine by Unit Structures, Inc. were tested to destruction and furnished the basic data for acceptance of laminated, glued wood structural units by the construction industry.

FIRST of Its Kind

and still first in economical construction

UNIT All-glued Laminated Arches

To the design engineer, the decisive advantage of the laminated arch is measured in dollars and cents — low initial cost, low installation cost, no decorating expense, and the very minimum of maintenance.

These savings, plus increased freedom in building design, are identified with all types of Unit laminated structures. They are a matter of record in hundreds of buildings from coast to coast.

The foundation for this most economical method of roof construction was laid back in 1934 when Unit Structures produced the first all-glued, laminated arches accepted for the building industry by the U. S. Forest Products Laboratory. This pioneer leadership in experience and manufacturing facilities is yours to draw on and work with. See SWEET'S catalog for basic arch information; and write, without obligation, for detailed technical information on any specific problem.

UNIT STRUCTURES, INC. PEshtigo, Wisconsin

UNIT STRUCTURES, INC.

500 Peck Avenue Peshtigo, Wisconsin

American Blower . . . a time-honored name in air handling

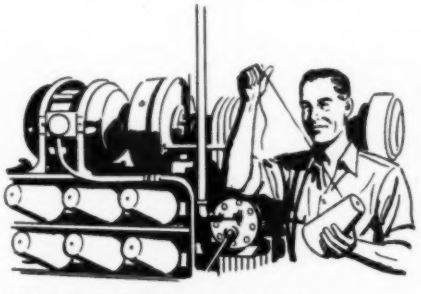
Phoenix, Ariz., has a conveniently located American Blower Office to provide you with data and equipment for air handling. You can reach American Blower in Phoenix by calling 8-2793. In other cities, consult your phone book.

CAPITOL COMFORT

All of us can feel a bit prouder now that our most famous of buildings, the U.S. Capitol, has been renovated. The job also included the power plant where modern new American Blower Mechanical Draft Fans replaced the obsolete equipment. High static efficiency, low RPM, low tip speed and low inlet velocity are but a few of the many reasons these fans enjoy such wide acceptance. Our conveniently located branch offices, staffed with competent engineers, will be glad to furnish you with specific data.

CLEAN AIR

Soap manufacturers strive continually to achieve high standards of purity in their products. But industrial dusts raise hob at various stages of processing. American Blower equipment has helped several soap companies overcome this problem. American Blower fans and air washers, for example, are highly effective. The fan supplies an ample supply of circulating air. The air washer cleanses, purifies and freshens the air while removing dust and water-soluble odors.



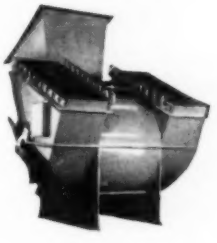
YARN ABOUT YARN

A textile manufacturer was continually changing pulleys or setting the machine rate on his ring-spinning frames to fit the material that worked at the lowest speed. He'd heard about American Blower Gyrol Fluid Drives and decided to try them. Results were amazing. Gyrol Fluid Drive permitted a higher output within safe limits of the material, allowed spinning frames to start gradually with less yarn breakage. For your business, wouldn't smooth power transmission and adjustable speed control be a distinct advantage?

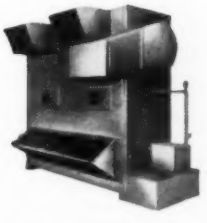
YOUR BUSINESS

If your needs call for heating, cooling, drying, air conditioning, or air handling equipment, you'll find American Blower an excellent source of supply. For data, phone our nearest branch office.

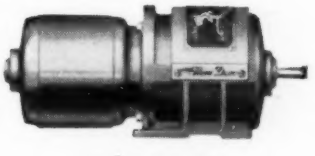
Unit Heaters



Mechanical Draft Fans



Air Conditioning Equipment



Gyrol Fluid Drives

Utility Sets

AMERICAN BLOWER CORPORATION, DETROIT 32, MICHIGAN
CANADIAN SIROCCO COMPANY, LTD., WINDSOR, ONTARIO
Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION

YOUR BEST BUY AMERICAN BLOWER AIR HANDLING EQUIPMENT

Serving home and industry: AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS • DETROIT LUBRICATOR • KEWANEE BOILERS • ROSS HEATER • TONAWANDA IRON

The Architect's Question Box

Published now and then in the interests of wood finishing, by FIRZITE and SATINLAC*, those two little* ***WIZARDS WITH WOOD.***

*TRADEMARKS

QUESTION: How can I get a light natural finish on Knotty Pine?

ANSWER: Apply a coat of SATINLAC: steel wool when dry. Apply second coat of SATINLAC: when dry steel wool and then wax. The same procedure can be followed on most hardwoods and softwoods, including Korina, Walnut, Oak, Vertical Grain Cedar, Mahogany, Unselected Birch, American Elm, etc., etc.

QUESTION: On woods like Walnut and Mahogany where oil-type finishes such as varnish turn the woods several shades darker is there any finish I can use to avoid this dark coloration?

ANSWER: SATINLAC has been developed to meet the demand for a light natural finish on all woods. It produces a finish on dark woods like Mahogany and Walnut that is shades lighter than oil base finishes.

QUESTION: How can we prevent too high a sheen when waxing a wood surface?

ANSWER: If the paste wax is rubbed shortly after application the result will be a soft sheen. The longer the wax sets before rubbing the higher the resultant gloss.

QUESTION: How can I get a Colonial or Cape Cod effect on Knotty Pine?

ANSWER: Apply one coat of tinted Clear FIRZITE to obtain the Cape Cod effect. SATINLAC should then be used for the finish coats. For full information on this finish write us.

If you have any other problems on wood finishing let us help you. Write also for specifications.

May we send you a blond Birch panel showing SATINLAC finish?

UNITED STATES PLYWOOD CORPORATION

Dept. 84, 55 West 44th Street, New York, N. Y.

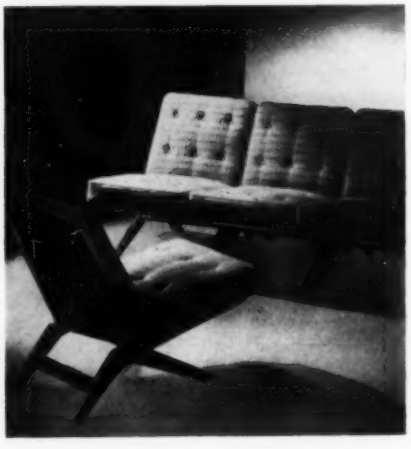
Copr. 1952

PRODUCTS

(*Continued from page 228*)

Upholstered Folding Chair

John Stuart has recently added an upholstered folding chair to his line of Danish imports. The chair is so constructed that the criss-cross legs form an angle which is said to permit stacking in a minimum amount of space. If desired, two or more of the chairs may



Upholstered folding chairs may also be combined for larger seating units

be used to form a loveseat, sofa or a bank of seating units.

Spring constructed, the cushions are available in imported linen prints, tweeds and textures in a wide variety of colors. John Stuart, Inc., 470 Fourth Ave., New York, N. Y.

Shades for School Dormitories

Originally designed for industrial use because of their resistance to climatic changes, grease and dirt, abnormal exposure to sunlight and presence of fumes, *Ra-Tox* wood-slat ventilating shades are claimed to outwear shades made of cloth or similar materials. Constructed of strong, resilient kiln-dried basswood slats, woven together with heavy duty twine, the shades are available in a wide range of colors or in a natural finish. The wood construction of the shade is said to act as a natural insulator, blocking heat transference and reducing room temperatures in the summer. The same

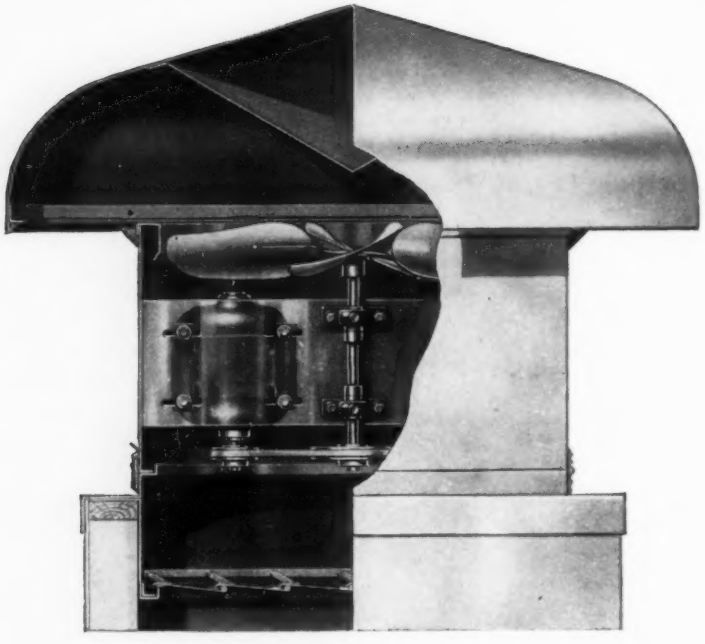
(*Continued on page 236*)

Skidmore, Owings & Merrill, *Architects*

MODERN DOOR CONTROL BY *LCN* · CLOSERS CONCEALED IN HEAD FRAME

FORT HAMILTON VETERANS ADMINISTRATION HOSPITAL, BROOKLYN, NEW YORK

LCN CATALOG 11-E ON REQUEST OR SEE SWEET'S • LCN CLOSERS, INC., PRINCETON, ILLINOIS



BURT LOW TYPE
FAN VENTILATOR

MAY BE USED AS AN EXHAUST FAN VENTILATOR OR AS A FRESH AIR SUPPLY UNIT • HIGHLY EFFICIENT BIG CAPACITY • QUIET OPERATION COMPLETELY WEATHERPROOF • EASILY INSTALLED • QUICKLY ACCESSIBLE

The new Burt Low Type Fan Ventilator meets today's architectural requirements for low functional design that is inconspicuous when installed. Its highly efficient performance and easy maintenance recommend it to plant engineering personnel. Standard sizes include fans from 12″ to 60″ diameters. Fans may be direct motor driven or V-belt and pulley drive. Automatic or motor operated louver-type dampers may be used. See Sweet's for complete data or write us for Burt LOW TYPE FAN VENTILATOR Bulletin SPV-16.

FAN & GRAVITY VENTILATORS • LOUVERS • SHEET METAL SPECIALTIES

The Burt Manufacturing Company

48 E. South Street • Akron 11, Ohio

PRODUCTS

(*Continued from page 232*)

is reported to hold true in the winter for blocking heat loss through the window, thereby lowering heat bills. The Hough Shade Corporation, Janesville, Wis.

Plastic Wall Vents

Designed to reduce peeling of house paint, *Vent-O-Wall Breathers* are small louvered cylinders which can be tapped into ¾ in. holes drilled in a wall. When installed, the vents are reported to allow air to circulate, helping to eliminate moisture and to furnish better paint adhesion. Moulded of Tennessee Eastman Company's Tenite plastic, the devices are rust and corrosion-proof and are said to have long service life. They can be installed at any time and, according to the manufacturer, are practically invisible after painting. Vent-O-Wall Co., 16201 Elsienna Ave., Cleveland, Ohio.

Plastic vents allow air to circulate through walls, reduce paint peeling

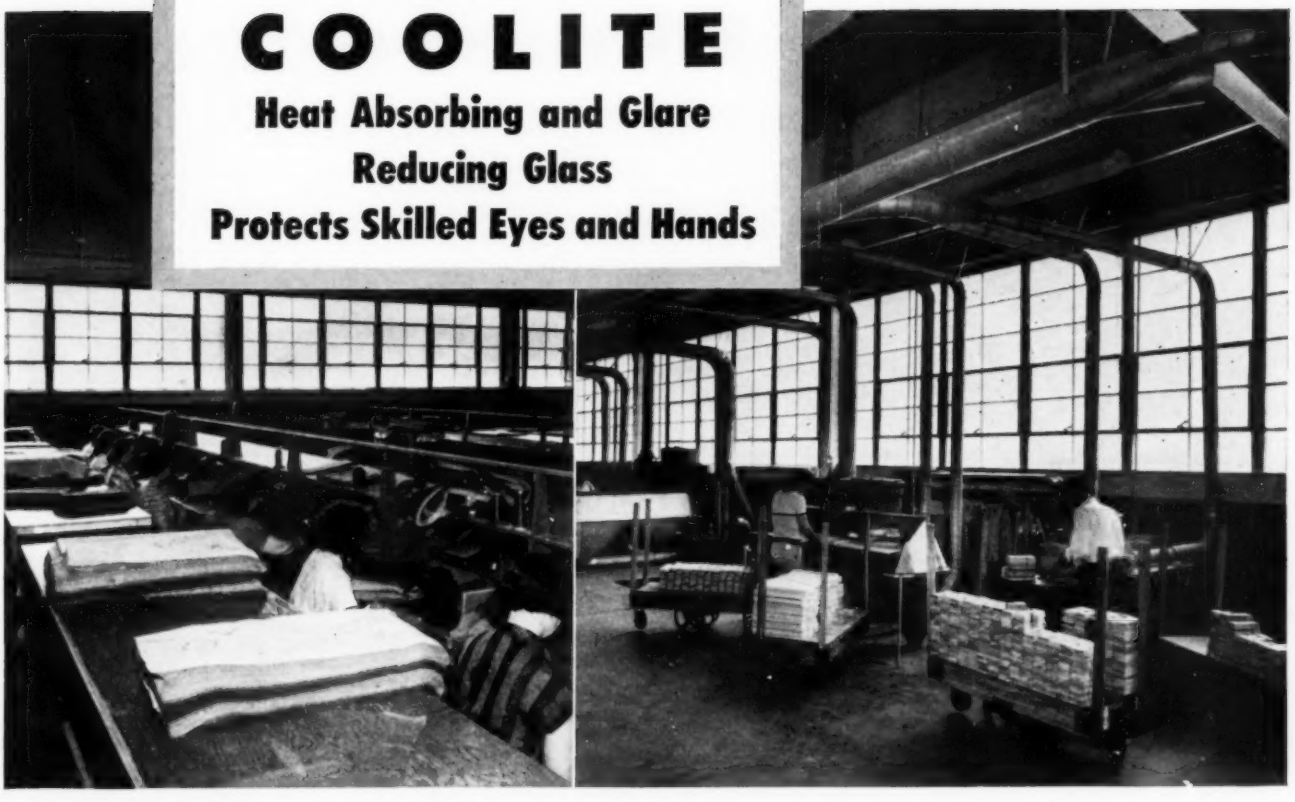
Interlocking Plastic Wall Tile

Pittsburgh Interlock, an interlocking plastic wall tile, is said to resist cracking, chipping, rusting and warping. The manufacturer also reports that the tiles remain firmly adhered to the wall and that the beveled edges fit snugly against

(*Continued on page 240*)

Craftsmanship calls for COOLITE

Heat Absorbing and Glare Reducing Glass Protects Skilled Eyes and Hands



Architect—J. N. Pease & Co., Charlotte, North Carolina
General Contractor—Inge-Hayman Construction Co., Inc., Dallas, Texas
Glazing Contractor—Pittsburgh Plate Glass Co., Charlotte, North Carolina

Kroehler, Famous Name in Furniture, Chooses COOLITE GLASS by Mississippi

Kroehler Manufacturing Co. safeguards the high quality of its famous furniture by flooding workrooms with filtered daylight. Three exposures in this modern factory are glazed with 5800 square feet of Coolite, Heat Absorbing and Glare Reducing Glass. The precise workmanship of the woodworking shop and careful skill of the sewing department would be difficult to maintain under the eye-fatiguing glare of raw sunlight. But Glare Reducing Coolite strains out the unwanted properties in natural light . . . floods rooms with softened illumination that aids seeing tasks . . . keeps interiors more comfortable by helping to absorb solar heat rays.

Coolite has a refreshing, cool, blue-green color, modern in appearance. It reduces maintenance . . . no painted windows, makeshift shields or bothersome blinds. In your plans for new construction or the modernization of existing facilities, investigate Coolite. See how it can provide increased efficiency and economy for your clients. Get in touch with your Mississippi Glass distributor today.

Mississippi offers a wide variety of patterns in translucent, figured and wired glass. All are scientifically designed to distribute daylight to best advantage. "Visioneer" your buildings with glass by Mississippi.

Send for free catalog, "Coolite Heat Absorbing and Glare Reducing Glass." Samples on request.

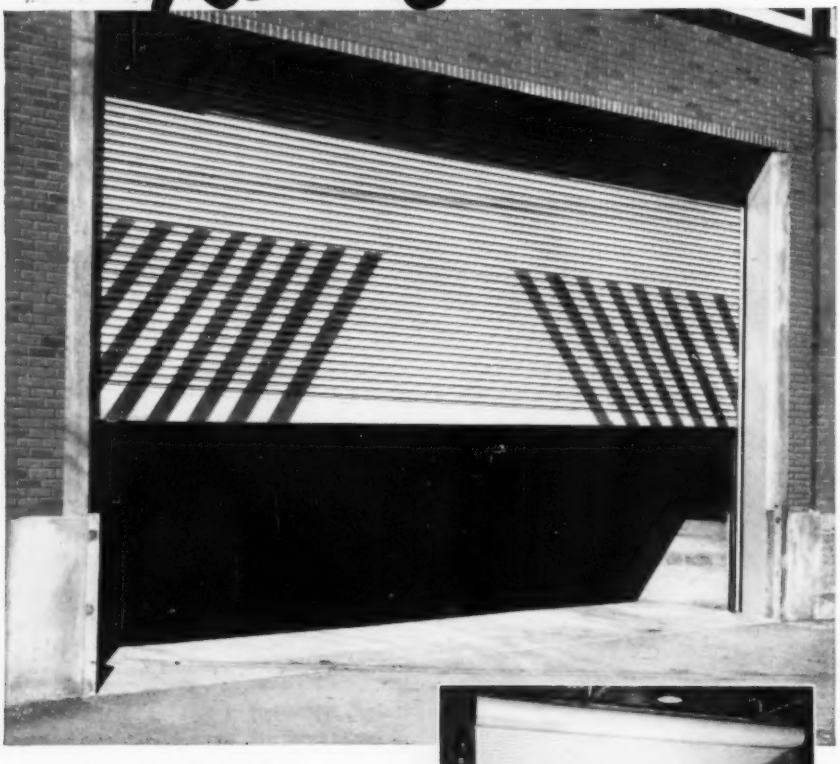
MISSISSIPPI Glass COMPANY

88 ANGELICA ST. SAINT LOUIS 7, MO.

NEW YORK • CHICAGO • FULLERTON, CALIF.

WORLD'S LARGEST MANUFACTURER OF ROLLED, FIGURED AND WIRED GLASS

KINNEAR Rolling Doors



Greater Efficiency SAVES Time, Space, and Money

Every Kinnear Door is tailored to fit the individual opening, in old or new buildings. Coiling neatly above the lintel, they open straight up — can't interfere with traffic or other plant activity. A half-century of use under the most difficult conditions gives complete proof of the Kinnear Door's capacity for years of hard, constant service.

They save money because their rugged, all-steel, interlocking slat curtain assures long life and low maintenance costs, plus *extra* protection against fire, intrusion, or wind damage. Slat surfaces are heavily zinc coated by the hot-dip process, and a special Kinnear Paint Bond is applied to assure lasting paint adhesion.

They save space by opening straight up and coiling above the doorway, allowing all floor and wall space around the door to be used at all times.

They save time with their smooth, easy, gliding action. With motor operation, doors can be fully and safely controlled by push-buttons from any number of convenient locations.

Write for your copy of new catalog.

The KINNEAR Manufacturing Company

FACTORIES:
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Columbus 16, Ohio
1742 Yosemite Ave.,
San Francisco 24, Calif.
Offices and Agents in Principal Cities

Saving Ways in Doorways
KINNEAR
ROLLING DOORS

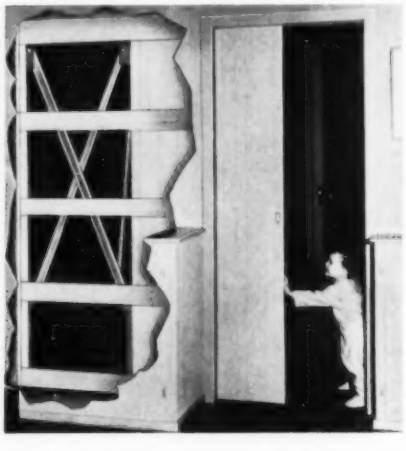
PRODUCTS

(*Continued from page 236*)

one another, thereby eliminating the dirt-catching qualities of mortar lines in other types of tiles. The tile, which can be used in kitchens, bathrooms, laundries, restaurants, stores, laboratories, dairies and factories, is described as being easy to install. National Distributors, Jones & Brown, Inc., 439 Sixth Ave., Pittsburgh, Pa.

Sliding Door Package

Floor track and hangar hardware conventional with sliding doors are replaced in the *Dorflo* hardware package unit by a silent "scissor suspension" operator, according to the manufacturer. The unit features a balanced spring action for smooth operation, and

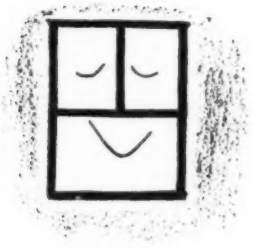


Scissor-suspension operator eliminates floor track and hangar hardware in sliding door package unit

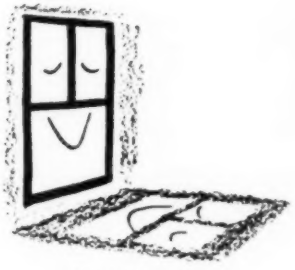
with a minor spring adjustment it is said to become self-closing. The suspension mechanism reportedly will outlast most track and hangar sliding door units and eliminates faulty operation caused by dirt and foreign objects that clog track-type doors. The unit can be operated electrically for fire doors, heavy hospital doors and other industrial applications. The package is designed for standard and special doors of wood, metal and plastic, and contains all necessary equipment — excluding door — for complete installation. EZ-Way Sales, Inc., St. Paul Park, Minn.

(*Continued on page 244*)

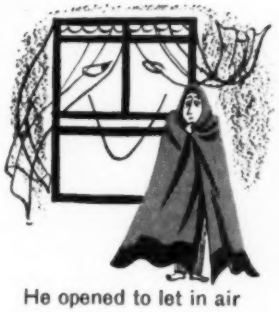
This is the story of a window



He was a good window



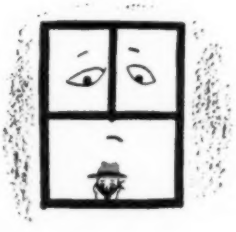
He let in light



He opened to let in air

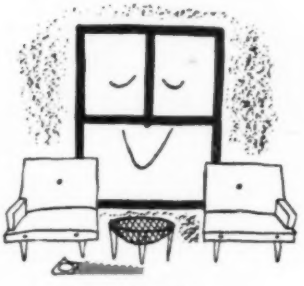
He closed to keep out rain

He let people look out

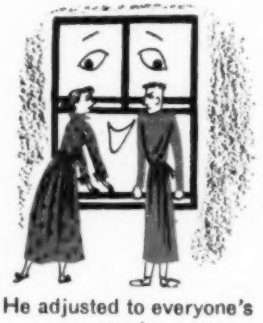


He let people look in

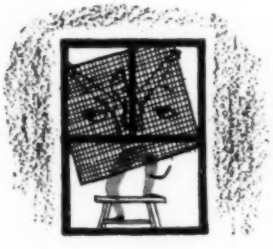
He contributed



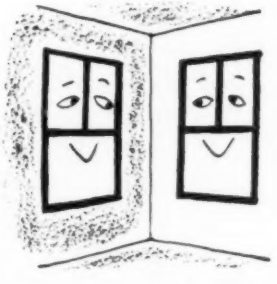
to modern living



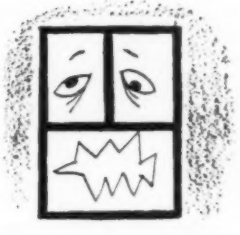
He adjusted to everyone's needs



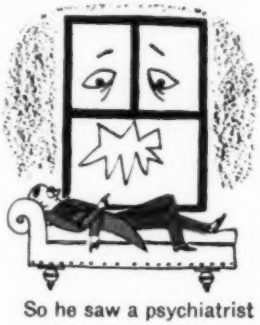
He adapted to all seasons



He was a major factor in house design

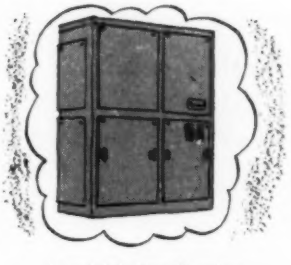


But overwork caused a breakdown

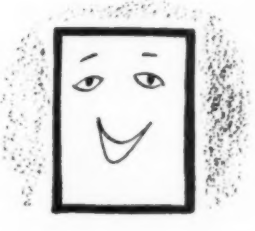


So he saw a psychiatrist

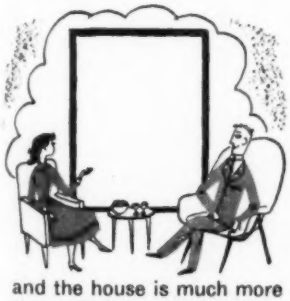
who told him about a new idea in houses . . . the Carrier Weathermaker Home



in which the Carrier Weathermaker Air Conditioner maintains 4-season comfort



and air conditioning pays for itself (less costly window construction, for one thing)



and the house is much more livable (with better lighting, a better view, for instance)

The whole story is in this booklet, which is free to all windows (and people).

Carrier

AIR CONDITIONING • REFRIGERATION

P.S.: Of course, you can put the Carrier Weathermaker in any new house, many old ones.

Carrier Corporation
312 S. Geddes Street
Syracuse, N. Y.

Please send me
"How to Have a Weathermaker Home."

Name_____

Street_____

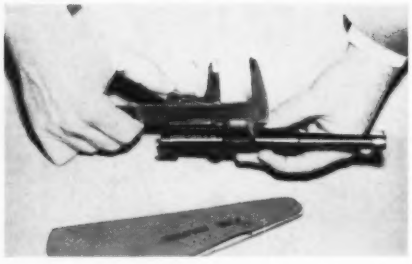
City_____ State_____

PRODUCTS

(*Continued from page 240*)

Moderate Cost Precision Caliper

A high quality imported vernier caliper costing only about half the price of comparable domestic calipers is now available from *Master Rule*. Made by Eskilstuna Tools of Sweden, the caliper is reportedly capable of measuring external, internal and depth dimensions, including core diameters of threads, in fractions or decimals of inches. It is made of tool steel, hardened, ground and polished, with the jaws lapped parallel. Tests with the Johansen Plug gauge are reported to have shown the caliper to be absolutely accurate. A friction lock on the instrument is designed to insure ease and dependability of operation. Overall dimensions are 3 by 8 in. The scale is 6 in. long and jaws are $1\frac{9}{16}$ in. deep. Master Rule Co., Middletown, N. Y.



Imported Swedish caliper is moderately priced, has friction lock

New Scruggs, Vandervoort, Barney department store, Clayton, Mo.

Architect: Harris Armstrong.

Consulting Engineer: Neil J. Campbell.

Contractor: Gamble Construction Co.

LACLEDE JOISTS

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STRENGTH... ECONOMY!

For lightweight, functional design, builders, architects and engineers wisely specify these Laclede Steel Products for floor and roof construction.

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St. Louis, Mo.

New Heating Device On Automatic Washer

Featuring a built-in heater, the *Bendix Snow White* automatic washer, a tumble action model, reportedly keeps wash water hot and can even raise the temperature of the water supplied from the heating tank. The heater, which is of the rod immersion type operating on 110 volts, is operated by turning a dial.

Washer features dial-operated "Magic Heater," new timing device

According to a Bendix survey, 65 per cent of the American homes using automatic washers have water tank thermostats below the 145 degree temperature necessary for sanitizing clothes. The new heater works only during the washing period, so that the clothes may still be soaked and rinsed in warm water.

A suspended timing device, which stops the timer until the washer is filled, is also featured in the new model. Bendix Home Appliances, Division Avco Mfg. Corp., South Bend 21, Ind.

(*Continued on page 248*)

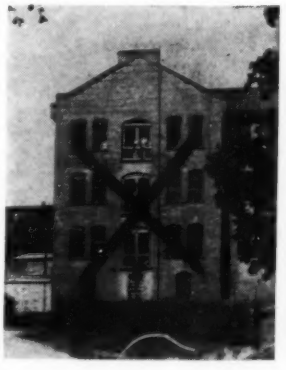
Modern Thinking about Modern Materials

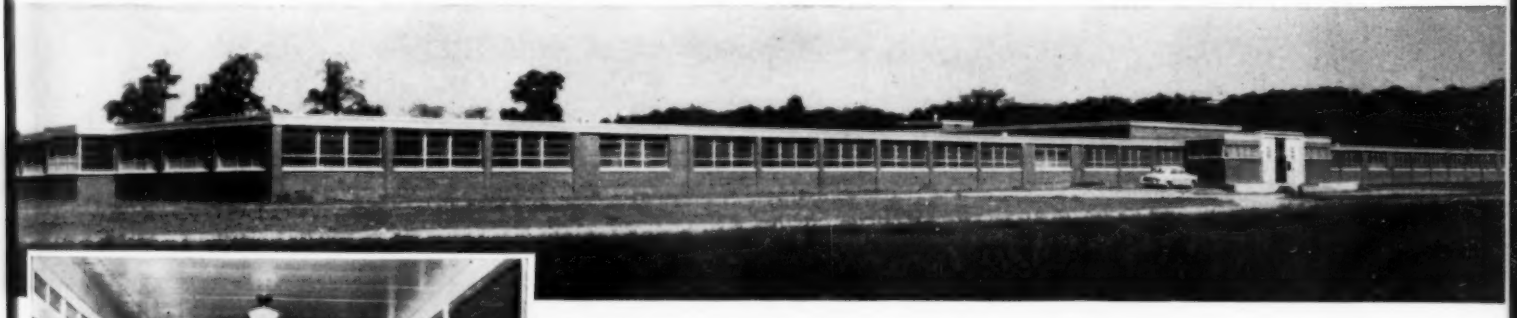
BUILDS HOSPITALS AT 65 TO 75% OF REGIONAL COST

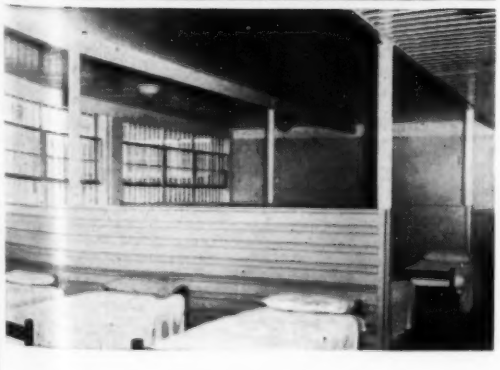
The one-floor quadrangle, around two football-field sized patios, is what Gregson & Ellis, of Atlanta, designed to replace the three-story edifice on the right for psychiatric patients. It is the thoroughly modern, well equipped, new Milledgeville State Hospital costing only $4.95 per sq. ft.

The 1,000-bed building shown below is typical of many institutional structures designed by Gregson & Ellis at a cost ⅔ to ¾ of regional costs, with access to the same labor and building conditions.

Gregson & Ellis designed, to full advantage, the economies inherent in all Robertson materials. They made the most of fast, lightweight dry construction, and knew how to achieve the functional beauty of undisguised materials. The contractor for the job was The A. R. Briggs Construction Co., of Macon, Georgia, who was low bidder at $494,000.







Q-DECK AND Q-FLOOR ceilings are the smooth side of Robertson Roof Deck, white enameled. Insulation and built-up waterproofing have kept the building pleasantly cool in the hottest weather. In winter, the cells of the Roof Deck are used for conveying forced warm air, which emerges near the windows, from holes cut into the steel cells . . . a clever combination of radiant and convection heating.

Privacy is provided for wards by partitions of soundproofed Robertson Q-Floor units. These are located to permit circulation of air, above and below, and to facilitate floor cleaning.

Gregson & Ellis *Architects*

More Detailed Information

is available on this hospital, or other Gregson & Ellis buildings and on the most advantageous use of Robertson materials. Write for complete literature.

H. H. ROBERTSON COMPANY

2404 Farmers Bank Building
Pittsburgh 22, Pennsylvania

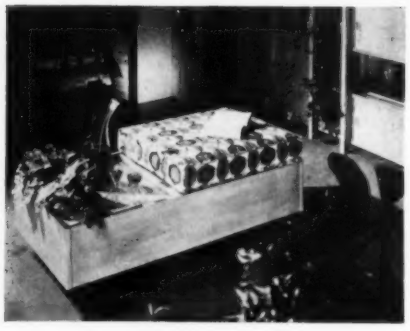
Offices in ALL Principal Cities in the U. S. A. and Canada

World-Wide Building Service

PRODUCTS
(Continued from page 244)

Two New Furniture Groups Introduced

Consisting of a matching group of upholstered items and a versatile collection of case pieces, the *Match-Makers* furniture group was designed by Edmond J. Spence. Constructed of solid white rock maple, the case pieces are finished on all sides, making them readily adaptable to room separators or used against a wall. The basic units of the group are available in 3, 4 and 5-shelf heights and are 42-in. and 54-in. long. Cabinets and bookshelves are built to meet individual specifications. All upholstered pieces have foam rubber cushions and the covers (which may be obtained in a variety of prints and textured weaves) are furnished with zippers for easy removal. The furniture is available in either a light caramel or a burgundy finish through Gordon Tables, N. Y. Furniture Exchange, 206 Lexington Ave., New York, N. Y.



Mahogany cabinet made in Mexico (left) has simple elegance. Cocktail table-bench combination (right) has foam rubber cushion and storage compartment under sliding panel

Another Spence design is the *Continental American* collection, manufactured by Industria Mueblera in Mexico City. Simple, yet elegant in feeling, the solid mahogany case pieces show the influence of 16th, 17th and 18th century Mexican furniture. Chests and buffets are fashioned with Mexican silver drawer pulls, giving a rich effect — yet requiring no polishing. White onyx combined with the mahogany has been used attractively in end tables and cocktail tables, and dining chairs have seats of handwoven palm matting. Available through architects and decorators at the Urban Furniture Co., 323 E. 44th St., New York, N. Y.

Kitchen Appliances

Among the new *Kelvinator* refrigerators for 1952 are two models which feature a "Magic Cycle," or self-defrosting system. The defrosting is claimed to take place so rapidly that there is no adverse effect on ice cream or other frozen foods or on the safe temperatures in the fresh-food compartment. Using no artificial heating device, the system operates by means of a simple change in the normal cold-making function of the refrigerator. All eight ft and larger models feature door shelves

(Continued on page 252)

Here's an easy way to

Plan a SOUND SYSTEM

Just call in your RCA Sound Distributor
(he'll practically plan it for you!)

SOUND is a specialized field. That's why it's just good sense to pass your sound-system problems along to the man who works with sound every day . . . your own RCA Sound Distributor.

These men have had years of first-hand experience in working out sound systems for every possible application . . . for schools, hospitals, hotels, industrial plants, stores, airports, depots, auditoriums, churches. Their friendly advice is your best assurance that the *sound system you lay out will always reflect credit on your good professional reputation.*

This helpful service is available virtually anywhere in the U.S.A. *No obligation, of course.*

So next time you have a question on sound systems, call your RCA Distributor. Or easier still . . . just mail the coupon below.

Sound Products, Dept. 13G, Radio Corporation of America, Camden, N. J.

Without obligation on my part please have an RCA Distributor Sound Specialist call on me.

Name_____

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Address_____

RCA

SOUND PRODUCTS
RADIO CORPORATION of AMERICA
ENGINEERING PRODUCTS DEPARTMENT, CAMDEN, N.J.

In Canada: RCA VICTOR Company Limited, Montreal

HOW LIGHT ENTERS CLASSROOMS

Up-to-date information on how light enters classrooms through economical clear glass. Latest research by Professor R. L. Biesele, Jr. of Southern Methodist University, light-meter readings in schools compared with *Recommended Practice for Daylighting.*

DATA ON DAYLIGHTING NEEDS

Data from *Recommended Practice for Daylighting* compactly and clearly presented for quick reference.

LIGHT TRANSMITTANCE CHART AND SHADING DEVICES

Sunlight map and lots more data of repeated use to anyone designing schools.

PHOTOGRAPHS

of unusual architectural uses of glass in school design by:

Walter T. Anicka
Bush-Brown, Gailey & Hefferman
Ganster and Hennighause
Guirey and Jones
Charles D. Hannan
William A. Johnson
Perkins and Will
Walter Scholer
Wilson and Patterson

THIS 24-PAGE, lavishly illustrated book brings together the standards laid down by the Committee on Daylighting for the illumination and architectural professions. It shows examples of how those standards have been met by leading architects by using clear glass windows. The book also contains a great deal of material on daylighting never before published in concise form.

Easy reading, informative, beautiful, this book is a quick reference to keep on hand.

FREE COPIES AVAILABLE TO ARCHITECTS

Write Libbey·Owens·Ford Glass Company
4172 Nicholas Building, Toledo 3, Ohio

Please send me a free copy of HOW TO GET NATURE-QUALITY LIGHT FOR SCHOOL CHILDREN.

Name.....

Address.....

City..... State.....

Firm.....

PRODUCTS

(*Continued from page 248*)

for storage of small, less perishable items, and an electric outlet for a plug-in butter chest which will store a lb of butter at desired consistency. Other features include "cold clear to the floor" models with full-width freezer chests and twin crispers. Kelvinator Div., Nash-Kelvinator Corp., 14250 Plymouth Rd., Detroit 32, Mich.

Gas Range

A new "Marlboro" model Universal gas range for 1952, the *Wheel-About* features a storage cart with a removable cutting-board table top. The unit slides easily in and out of its cache in one side of the range — being out of the way when not in use, and extremely accessible when needed. Outstanding characteristics of the Wheel-About include good storage facilities for pots and pans and a sectional drawer for kitchen spoons, forks, spatulas, etc.; table-top working area at close hand to cooking area; maneuverability and many other attractive features. The range, itself, has Simmer-Save and Keep-Warm burners, an oven that does not vary more than two deg, and radiant broiling. It is available completely automatic, if desired. Cribben and Sexton Company, 680 N. Sacramento Blvd., Chicago 12, Ill.

Wheel-About storage cart is mounted on casters for easy maneuvering

Lighting Fixture

A newly designed surface mounted fluorescent fixture, the *Surf-A-Lite*, has recently made an appearance in the lighting field. Better general diffusion is said to result from the incorporation of Styrene plastic louvers and a metal reflector plate, both of which may be removed for pendant mounting. Featuring "Spring-a-matic" louver action, the fixture can reportedly be easily opened and closed for cleaning, and by the use of two hidden springs, the elimination of all screws, bolts and other mechanical devices has been made possible. The louver is claimed to be guaranteed against warping and discoloration in normal use for the life of the fixture. Side panels are available in either metal or translucent plastic, and all models can be used for pendant or surface mounting. The Surf-A-Lite features 45–37 deg shielding and is available in 4-lamp or 2-lamp, 40 and 20 watt models for individual or continuous mounting. Electro Mfg. Corp., 2000 W. Fulton St., Chicago 12, Ill.

CORRECTION

The RECORD regrets that because of an error, the *Morrison Roly-Door*, described on pp. 246–247 of the May, 1952, issue, was reported to be 17 ft high. The door is 7 ft high, 16 ft wide.

Walnut Lane Bridge, Philadelphia. First major pre-stressed concrete bridge in the U.S.

Why do you admire this bridge?

The structure you see consists of particles of aggregate and cement, reinforced and, in the girder sections, pre-stressed with steel.

But everything has been so well put together that the eye can no longer separate the design from the material, or its grace from its strength. The whole work is homogeneous.

A like fundamental, never to be overlooked by supervising architects and engineers, is that concrete itself becomes a homogeneous material *only when it has been properly and completely mixed.*

This is why the ready-mixed concrete industry sets exacting standards for mixer design, and certifies to you that truck mixers and agitators, built to those standards, have the proper design, capacity, drum speed and mixing action and the accuracy of water control required to produce a homogeneous concrete of uniform strength.

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CHAIN BELT COMPANY, Milwaukee, Wis. — THE JAEGER MACHINE COMPANY, Columbus, Ohio — WORTHINGTON PUMP & MACHINERY CORP., Dunellen, N.J.

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THE SILVER-DOT RECESSED DOWNLIGHT

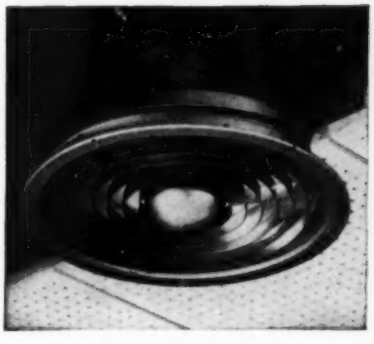
Featuring complete concealment of the light source, this compact Silver-dot unit rounds out Silvray's line of all-purpose incandescent downlights.

Employing a 4" ceiling aperture for passage of a precisely-focused light beam, the Silver-dot is ideally suited for supplementary accent or special-effect lighting in commercial and residential interiors.

Silver-dot units are designed for use with the new 100-watt A-21 clear silvered-bowl lamp. They produce more candle power than equipment using 150-watt reflector or projector lamps ... use less energy ... generate less heat.

Placed 6′ above the surface to be lighted, for example, the Silver-dot casts a 6′ glare-free light circle. Relamping, without removing the ceiling plate, restores the unit to initial efficiency.

Easy to install, the Silver-dot requires a ceiling opening only 6½" in diameter ... a recess depth of only 7¼".



THE SILVER-SPOT

Companion piece to the Silver-dot, this versatile, general-purpose downlight is available for both recessed and surface-mounted installations. 10¼" in diameter, the Silver-spot requires an opening depth of only 5⅛" for complete recessing . . . projects only 3½" when surface mounted. Precision light control of built-in reflector eliminates glare and wasted spill light. Louvre provides 45° shielding.

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The great diversification of the equipment and the variations of installations to serve many signaling requirements are described and illustrated in this new 32-page bulletin available on request. Address Dept. G-122, Cannon Electric Company, P. O. Box 75, Lincoln Heights Station, Los Angeles 31, Calif.

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LITERATURE

(*Continued from page 190*)

Wall and Floor Registers

Lima Registers. This booklet presents features of the various types of the manufacturer's floor and wall registers. Also included are sections on the production of the registers, diffusion patterns, tests for durability, air controls and diffusers. A number of tables listing specifications, price, shipping weight, etc. complete the main contents of the booklet. The Lima Register Company, 651 North Baxter St., Lima, Ohio.

Overall Ceiling Lighting

Benjamin Grid-Lite Lighting System. A system of overall ceiling lighting which employs a network of steel channels that support slim-line lamps and translucent plastic diffuser shields is described and illustrated in this brochure. Installation procedures are shown, and data on dimensions, specifications and features are included. Typical grid layouts are also illustrated. 13 pp., illus. Benjamin Electric Mfg. Co., Des Plaines, Ill.

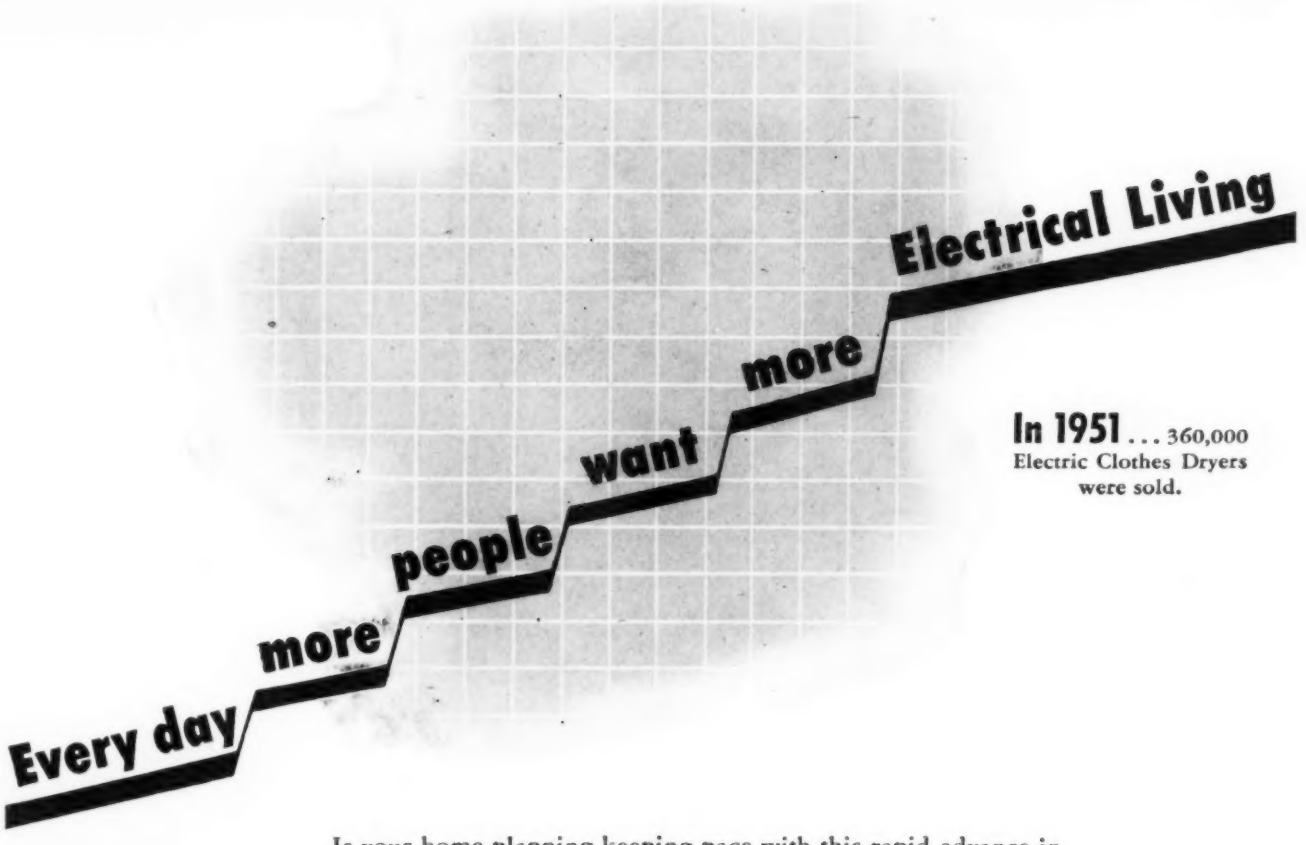
Applications for Silicones

What's a Silicone? Booklet explains the nature and composition of silicones and describes how they may be used in polishes, water repellents, fluids, release agents, silicone lubricants, silicone defoamers, protective coatings, electrical insulation and silicone rubber. Photographs and charts illustrate various applications. 33 pp., illus. Dow Corning Corp., Midland, Mich.

Ceiling System For Light and Sound Control

Curtis Light and Sound Conditioning System. Catalog depicts graphically the installation and operation of the manufacturer's ceiling system for control of both light and sound, which was described in ARCHITECTURAL RECORD, January, 1952, p. 167. Acoustical and illumination data is included, along with construction and installation details, typical layouts and ordering information. 19 pp., illus. Curtis Lighting, Inc., 6135 West 65th St., Chicago 38, Ill.*

(*Continued on page 260*)



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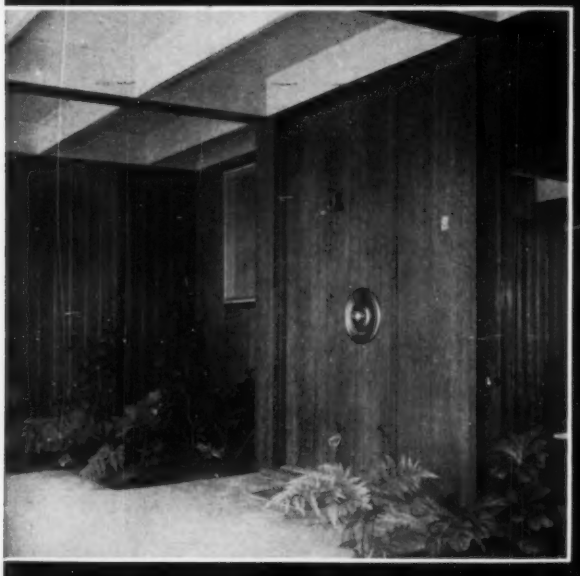

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Manila

LITERATURE

(*Continued from page 256*)

Tackless Carpet Installation

New Carpet Beauty. Explaining the features of the *Smoothedge* method of tackless carpet installation, this booklet compares the use of tacks and carpet grippers in installing carpet. An illustrated section on how the carpet gripper works is also included. 8 pp., illus. The Roberts Co., 1536 North Indiana St., Los Angeles 63, Calif.

Brick and Tile For School Construction

You Can Build Schools Now. Booklet points out ways in which brick, tile and terra cotta can be used in place of steel and other critical materials for walls, floors, partitions, lintels, etc. in school construction. Photographs and diagrams are included. 12 pp., illus. Structural Clay Products Institute, 1520 18th St., N.W., Washington 6, D. C.*

LITERATURE REQUESTED

The following individuals and firms request manufacturers' literature:

David L. Bockius, Jr., Architect, 13 N. Main St., Ashland, Ore.

William Hoskins Brown, Architect, 125 Tremont St., Boston, Mass.

Sol William Cohen, Architect, 805 Shirley Ave., Norfolk 7, Va.

Natalio First, M.M.O., Construcciones Civiles, Sanchez de Bustamante 210, Buenos Aires, Argentina.

Hamilton Construction Corp., 155 E. 42nd St., New York, N. Y.

J. J. Newberry Co. Warehouse, Bush Terminal Building No. 5, 87-35th St., Brooklyn 32, N. Y.

Per Rundberg, Architectural Designer, 1660 Niagra St., Denver 7, Col.

The American Institute of Architects is preparing a directory of manufacturers of modular-sized building materials, and requests literature from manufacturers whose standard size materials are coordinated with the standard 4 in. module. Address to William Demarest Jr., Secretary for Modular Coordination, American Institute of Architects, 1741 New York Ave., N.W., Washington 6, D. C.

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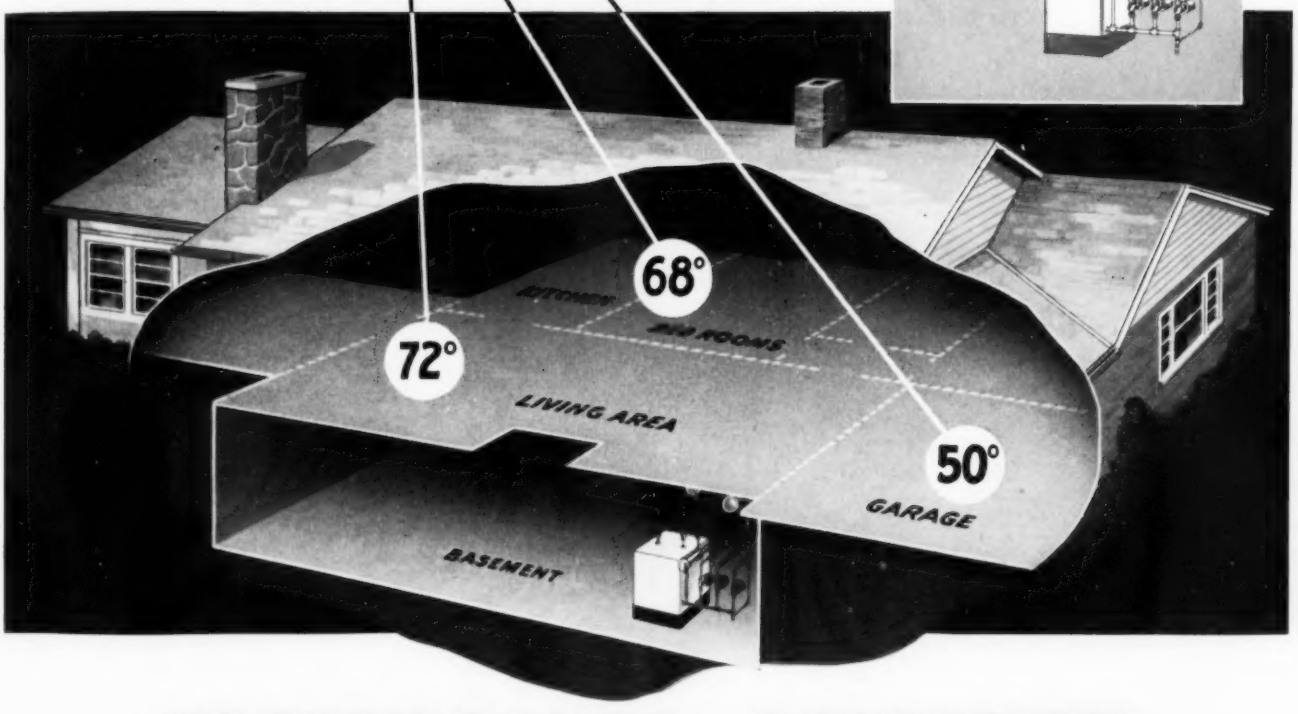

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Architectural Engineering

ANALYSIS OF TESTS ON HOUSE HEAT PUMPS

(*Continued from page 184*)

an all-electric residence with a heat pump is approximately three and one-half times more than without a heat pump.

Effect of Heat Pump on Utility's Load

One concern of the electric utility, which indirectly affects the consumer, is the load factor of his residence (Daily Load Factor = actual kwh ÷ demand (in kw) × 24 hr). What this means is that the utility must have sufficient capacity and heavy enough lines to furnish power for all of the electrical equipment the customer has. So if the residence has an installed capacity of 20 kw and a total of 2.0 kwh were used during one day, the daily load factor would be 10 per cent. Data accumulated during the test program shows that in these five houses the daily residential load factor is materially improved during the winter by the heat pump — it is as much as 50 per cent when heat storage is employed. The better the load factor, the better chance of lower rates. The graph on page 184 shows the electrical consumption of heat pump and appliances for the Coshocton, Ohio residence on a typical winter day.

Some Unusual Findings

The actual heat loss measurement of each of the five residences (based on the amount of electrical energy taken by resistance heaters) was found to be higher than the calculated heat loss. Usually the opposite occurs. Factors which contributed to the difference are: higher indoor temperatures were maintained, than assumed, and there were duct and other distribution losses which were not included in the calculations. Improper application, or the omission of the duct insulation, wastes considerable heat, and can very easily account for 10 to 40 per cent of the total heat loss of a structure.

When in use, the fireplaces in the Coshocton and Kingsport residences *increased the heat loss* to an extent not often realized (warm air is pulled out of the rooms and up the chimney). This loss has been estimated in the vicinity of 15,000 Btu per hr on a 30 degree day.

a glorious spire . . .

With its gleaming star 157' above ground, this tall aluminum spire adds majestic beauty to the First Hungarian Reformed Church in Cleveland, Ohio. This is the 135th church designed by architect Herman W. Maurer of that city. All parts of the spire's cover were prefabricated by Overly. Intricate sheet metal work achieved on spire, visible railings, trim, and star shows Overly's fine craftsmanship.

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Arm-Glaze, Type G — an ELASTIC compound not affected by temperature changes. Provides permanent seal for practically entire life of sash — will not crack or chip off. Ideal for all metal sash glazing including aluminum. Aluminum in color.

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Arm-Glaze, Type M has the same ELASTIC properties as Type G (above). Wood sash Armglazed available from manufacturers, jobbers and dealers at no extra cost. Assures extra long service at negligible maintenance.

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THE RECORD REPORTS

F. LL. W. and Paris

(*Cont. from p. 22*)

but the later work to him had slipped into the formula of "a corrupt society." The houses "are sensational constructions destined to serve as residences of billionaires (in terms of French francs) . . . What a change from the 'houses of the Prairie'!" and he began to question Wright's efforts since. His work "is wholly subjected to the laws of plasticity and to the architectural ideas of the modeler of forms. Even the furniture no longer belongs to you," and, in full critical flight, he arrived at the familiar plaint that "the client of Wright never has his own house. It will always be Wright's house." What would have saved the artist, according to Cornu, would have been "a more humane and more nourishing society"!

The word "billionaires" found its way into the articles of Martinie and of Bernard Champigneulle (*Le Figaro littéraire*), both in strong political opposition to Cornu. It is interesting that the critics of two conservative weeklies should pick on such a point when much of the best of French architecture was built for financiers, tax-farmers and real estate speculators.

The explanation for it is hardly surprising, as seen in a paragraph of Martinie:

"The difficult problems of reconstruction in France find us poorly prepared to savor an experimentation where the dilletante's approach is perhaps not altogether absent." Yet he was thankful that Wright recalled "with authority that all the gadgetry and hardware, as modern or ultra-modern as they may be and as useful as they are about the house, are little things, easily purchased. Architecture, that which creates the beautiful, the only kind worthy of the name, has no price and remains the achievement of the privileged few."

Wright won particular applause from Champigneulle, author of several books on Versailles and the Trianons, for his attack on the International Style, although he was only amused by the term "organic" and Wright's violent condemnation of the skyscraper. He, too, questioned "these attempts at the sensational effect. . . ." Champigneulle's was, in many ways, the most interesting of the commentaries:

"This exaltation of the individual, this gospel à la Jean-Jacques [Rousseau],

(*Continued on page 272*)

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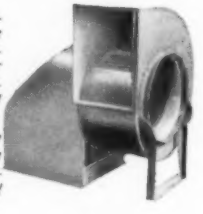
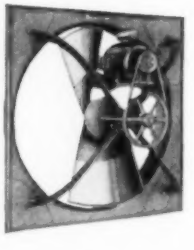
Direct Drive Unit Blowers *are available in 12 models. Wheel sizes from 4" to 11". Choice of speeds available in each size. These units may be mounted on floor, wall or ceiling.*

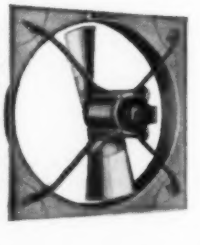
Belt Drive Unit Blowers. *Available with either the quiet, slow speed, forwardly curved blade wheel or the efficient, non-overloading, backwardly inclined blade wheel. Wheel diameters to 30". Capacities up to 18,300 cfm. All Herman Nelson Unit Blowers available for any discharge and rotation.*



Belt Drive Propeller Fans *These versatile units deliver maximum amount of air effectively . . . quietly. Operate horizontally or vertically. Wheel diameters from 24" to 54". Capacities up to 36,000 cfm.*



Direct Drive Propeller Fans. *Both small sizes for use in offices, laboratories, etc., and also heavy duty units commonly used where contaminated air cannot penetrate the totally enclosed motor. Sizes from 14" to 36". Capacities up to 14,600 cfm.*



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Feature-studded fixture by
LITECONTROL
...with Litecontrol's brand new
Snap-Lock Catch

Large illustration shows fixture with glass sides (Series 3600 Bi-pin, Series 3700 Slimline)

Smaller picture illustrates fixture as equipped with metal sides (Series 3800 Bi-pin, Series 3900 Slimline)

Litecontrol's new snap-lock catch is opened with fingertip ease

To close just press door into place — the catch snap-locks itself

NOTEWORTHY for its extreme shallow depth — only 4" — this new LITECONTROL fixture makes an exceptionally good appearance . . . unobtrusively.

Holophane® No. 9016 Low Brightness Lenses are set in a hinged door. The door is equipped with LITECONTROL'S special new snap-lock catch . . . opened by easy fingertip pressure on protruding catch-trigger, closed by simply pushing into place where it snaps into closed-and-locked position automatically.

Low Brightness Lenses hold the brightness down at critical viewing angles. A variety of effects may be achieved by using different side panels — diffusing glass, plastic or all-metal.

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3624	2-40 Watt Bi-pin	12"	4"	48¼"
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3728	2-96T12 Slimline	12"	4"	96⅜"
3824	2-40 Watt Bi-pin	12"	4"	48¼"
3924	2-48T12 Slimline	12"	4"	48¼"
3928	2-96T12 Slimline	12"	4"	96⅜"

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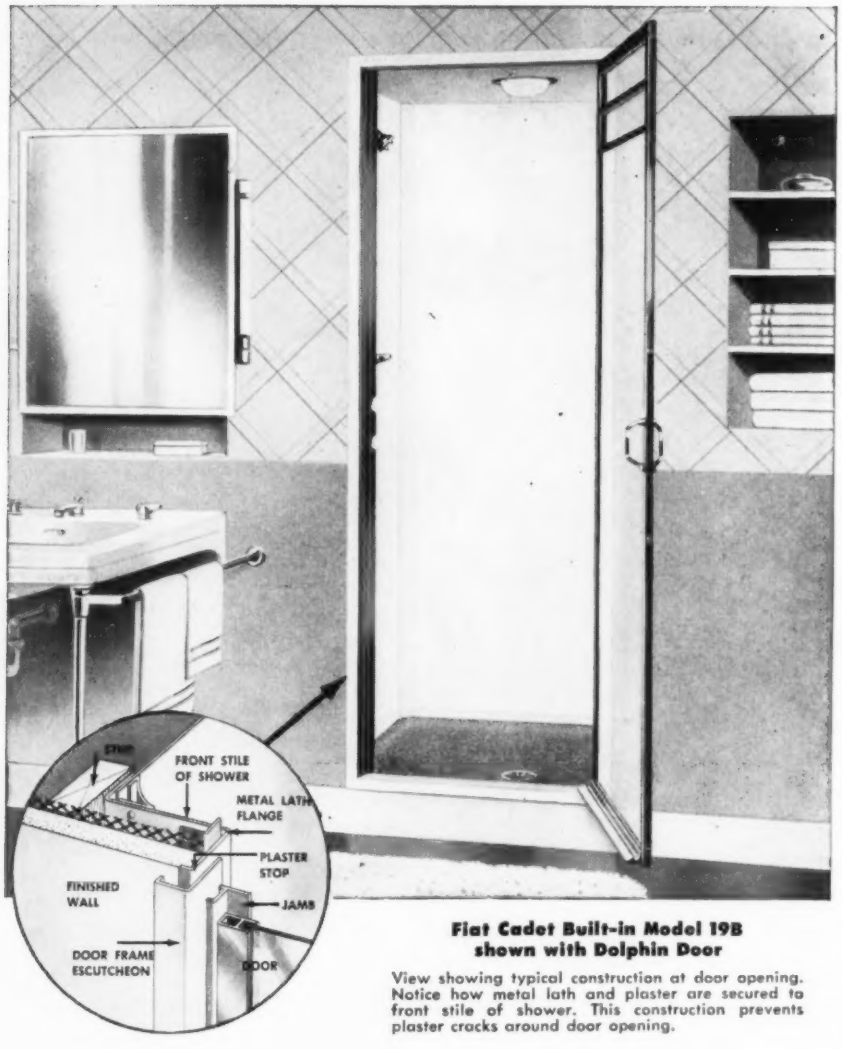

Fiat Cadet Built-in Model 19B shown with Dolphin Door

View showing typical construction at door opening. Notice how metal lath and plaster are secured to front stile of shower. This construction prevents plaster cracks around door opening.

A shower unit designed for Built-in installation in bathrooms . . .

At last . . . a moderately priced shower unit expressly created for recessed installation . . . the only prefabricated metal shower cabinet that provides for continuity of the bathroom wall material. By the elimination of all apparent cracks or joints it becomes an integral part of the structure rather than merely a fixture.

The result is a rich, ultra-smart, custom-built appearance. Yet, the installed cost is considerably less than that of a built-up tile shower. It makes a permanently water-tight installation, will not crack and develop leaks with settling of the building, as often occurs when mortar joints are depended upon for water-tightness.

Reversible side panels, valves can be installed on either side without drilling on the job.

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THE RECORD REPORTS

F. LL. W. and Paris

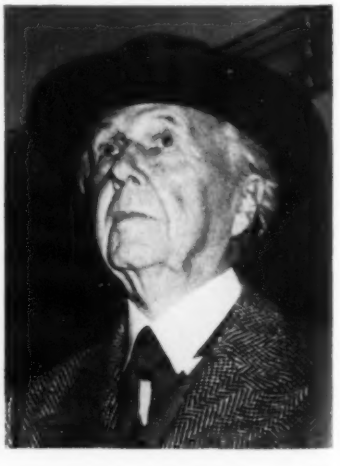
(*Cont. from p. 268*)

which announces to us the communion of man and nature, results in fact in costly villas and uncommon buildings. . . . The countryside has entered the house to the point where you cannot be rid of it. Interior walls of exposed stone work complete the illusion." Champigneulle knew of men who loved nature as much as Wright but who obtained satisfaction at seeing it through windows of modest dimensions.

In any event it was for him "a remarkable omen that the golden laurels should crown the hoary head of one who is presented to us as the first architect of the world, just at the time when he has abandoned his skyscrapers to devote his science of mathematician and geometer to rejuvenate the cabin of Uncle Tom."

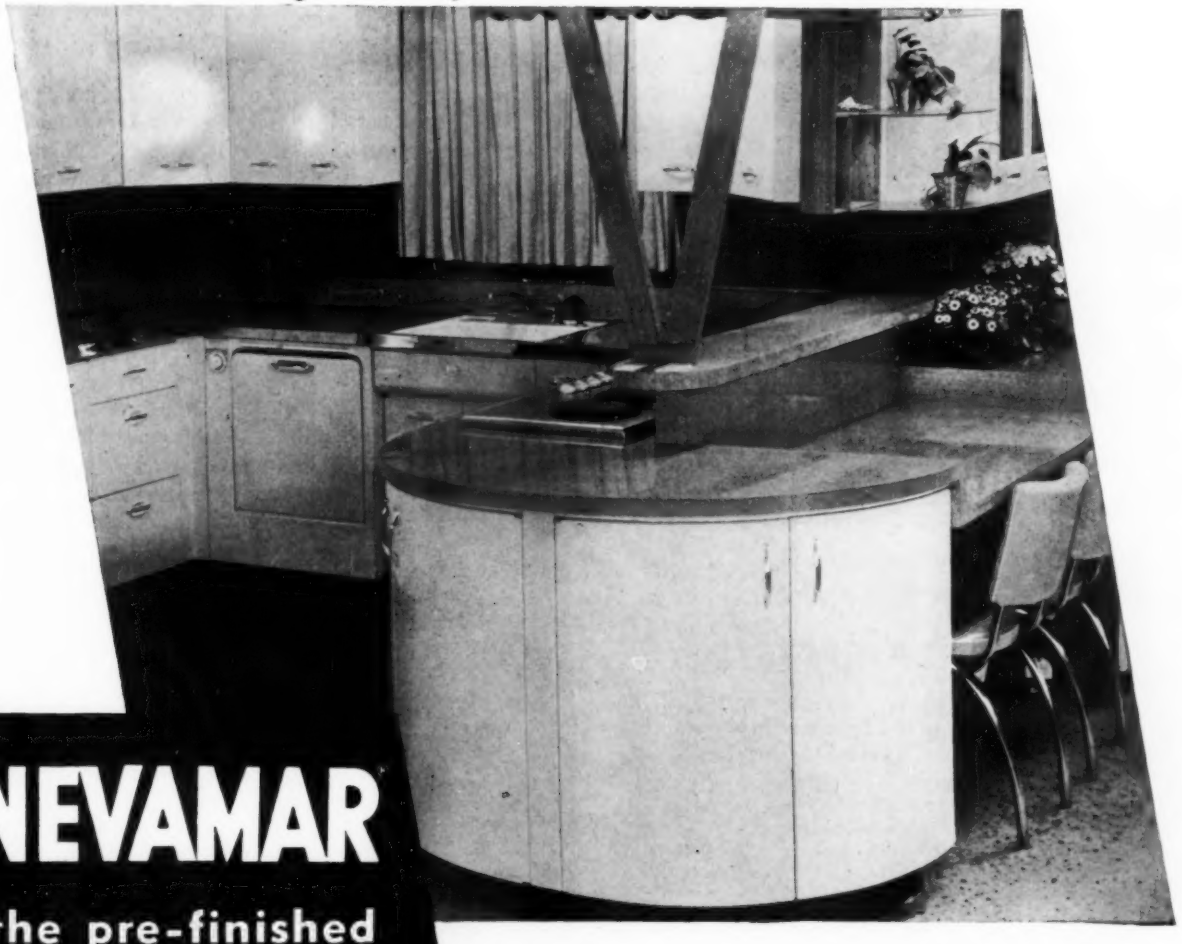
And he concluded: "Is he prophet when he foresees the decline of that 'Modern Architecture' which he abominates for the very reason that it is without soul? When he steps forward as leader of a world regenerated by the spirit and the natural life?"

The Wright exhibition was a mutual *succes d'estime:* much was discovered by the French and much, as it has since turned out, by the Prophet himself. The Ecole des Beaux-Arts is not, as it once seemed to him, the source of all evil; he now praises it heartily. It seems to have been an exciting lesson on both sides.



The "Prophet" of Taliesin, who accepted the A.I.A. Gold Medal in 1949, was to address the student guests at this year's convention. His own stipulation: students only

Planning a glamour-kitchen?



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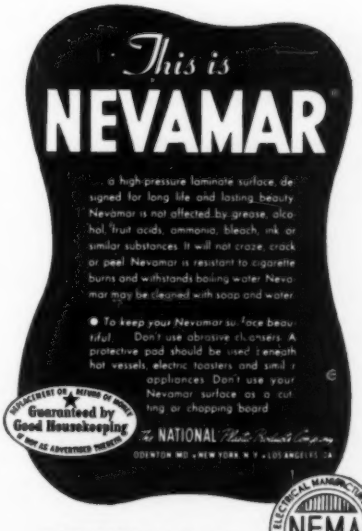
...for lasting beauty and carefree duty

Just imagine a surfacing material that meets every requirement of the architect and decorator for beauty, color, versatility and long life. That's NEVAMAR—the super-hard, super-smooth high-pressure laminate that's adaptable to practically every type of interior.

With NEVAMAR, you can create exciting effects in perfect taste for professional offices or commercial projects. NEVAMAR has won acclaim again and again in installations ranging from glamorous kitchens to the nation's largest airport terminals. Its possibilities are simply unlimited! NEVAMAR is available in a wide range of colors and patterns, including beautiful wood grains. We'll be glad to give you all the facts you should have to use NEVAMAR to best advantage.


This is
NEVAMAR
...a high-pressure laminate surface, designed for long life and lasting beauty. Nevamar is not affected by grease, alcohol, fruit acids, ammonia, bleach, ink or similar substances. It will not craze, crack or peel. Nevamar is resistant to cigarette burns and withstands boiling water. Nevamar may be cleaned with soap and water.
● To keep your Nevamar surface beautiful... Don't use abrasive cleansers. A protective pad should be used beneath hot vessels, electric toasters and similar appliances. Don't use your Nevamar surface as a cutting or chopping board.
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NEVAMAR high-pressure laminates conform to NEMA specifications.

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Manufacturers of Nevamar Decorative and Industrial Laminates • **SARAN FILAMENTS** • Wynene Molded Products

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and residential buildings, the Commission warned.

Specific Steps Suggested

The report included these suggestions for handling the immediate problem:

1) Incorporation in the airport itself of certain extensions or overrun areas.

2) Zoning of large areas beyond such extensions to prevent construction of obstructions that might be perilous to aircraft and to control erection of public and residential buildings as a protection from nuisance and hazard to people on the ground.

3) Increased federal aid for local airport construction. Congress has appropriated only $169 million in the six-year existence of the Federal Airport Act of 1946, which authorized expenditures up to $100 million a year. For fiscal '53, local communities had $75 million ready to be matched by federal aid; and only $15 million is in prospect. The Commission felt the Act should be better implemented by Congress or thrown out entirely.

4) As many airports as possible should bring themselves up to the standard runway lengths for different categories of airports.

5) Municipal planning should include provision for improvement of existing airports up to the point of "balanced saturation" and for purchase of land required for additional airports some years before saturation is reached.

6) Engine runup schedules and runup locations should be adjusted to minimize noise near airports.

Impasse?

The commissioners, who made an extensive investigation of conditions at a number of major airports throughout the nation, reported the pattern of development has been everywhere the same — airports were located quite close to cities, but far enough away that ground was cheap and few buildings obstructed vision; then the cities spread out toward the airports — sightseers followed by businessmen looking for concession locations, then industries, then homes and finally villages complete with shopping centers, schools, hospitals and recreational facilities. Now many airports started in open country two decades ago are surrounded by residential and industrial areas.

Technical and economic forces have been pressing steadily for airport ex-

(*Continued on page 280*)

James R. Dunlop

U. S. Chamber of Commerce President Laurence F. Lee (left) and Administrator Henry H. Fowler of the National Production Authority were photographed at a luncheon session of the Chamber's Construction Mobilization Subcommittee

Spilled Foods Won't Spoil

AZPHLEX

FLOORS . . .
they're greaseproof!

Wherever food is served . . . that's where AZPHLEX Thermoplastic Tile serves best. It's greaseproof against the fats and oils commonly found in food . . . it's long-wearing, made to give years of service . . . and it's mighty *good looking* too, with the widest color range in its class.

In Cafes, In Cafeterias, In Restaurants and Residential Kitchens
Use Azphlex because it has . . .

BEAUTIFUL, BRIGHT COLORS—
Colors unequalled by any other similar product in the same price class. AZPHLEX gives you 17 light, bright colors that are best suited for modern decoration and design.

DOLLAR STRETCHING DURABILITY—
AZPHLEX has resistance to abrasive wear that means lasting beauty and low cost. The smooth surface and through-the-thickness marbleizing keeps AZPHLEX floors looking new for years.

A LOW PRICE TAG—
Here is a premium quality tile in premium colors. Yet it costs only a few cents more per square foot than ordinary tile. Convince yourself! Compare it with any other similar product.

UVALDE ROCK ASPHALT CO.

AZROCK FLOORING PRODUCTS

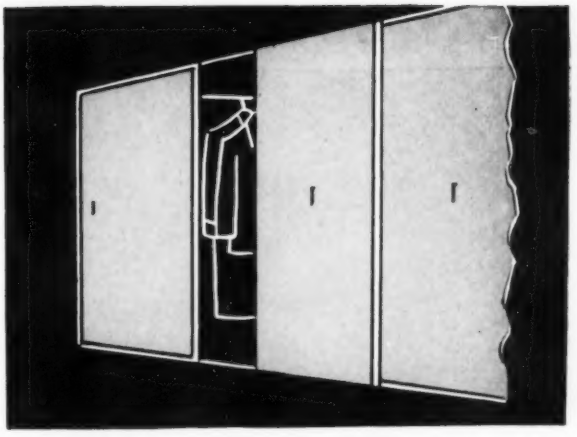
FROST BANK BUILDING • SAN ANTONIO, TEXAS

Makers of AZROCK, AZPHLEX, VINA-LUX, DURACO

"Azrock Makes Fine Floors"

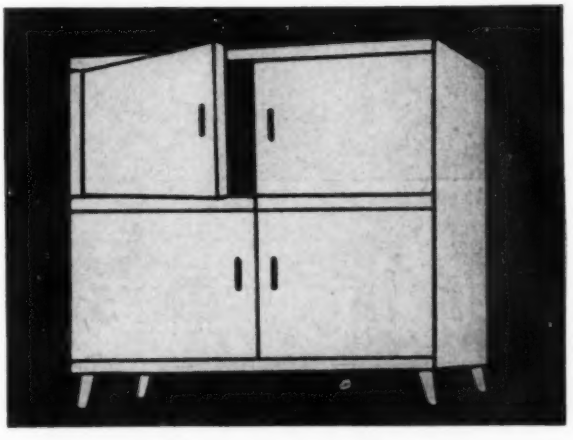
You've been waiting for

novoply*



for Sliding Doors and Partitions...and Cabinet Doors!

Here's why:



NOVOPLY...the completely new and different wood paneling...solves a problem that could never be solved adequately before: ***the sliding door and sliding partition problem.***

Novoply solves this problem because:

it is the flattest paneling ever produced ...virtually warp-free!

It is light in weight... spectacularly beautiful.

And perhaps the most amazing thing about Novoply is this: with *all* its advantages, it is surprisingly LOW-PRICED!

You can have Novoply — and *like* it — any way you want it... natural, stained, painted, veneered.

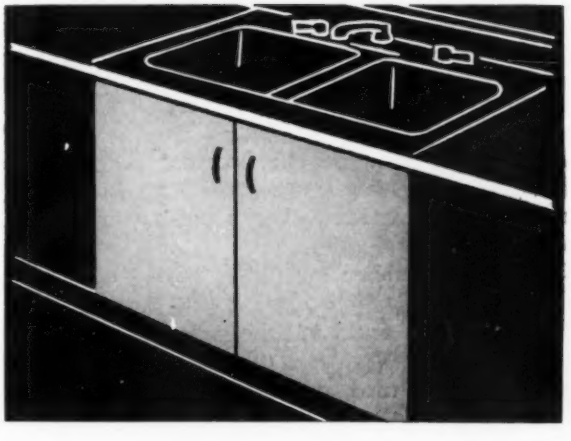
It is easily worked by ordinary woodworking tools. Can be sawed, screwed, planed.

So investigate Novoply... not *only* for sliding doors and partitions... but also for wall paneling, furniture, really distinctive built-ins.

Maybe you can think of *other* ways to take advantage of Novoply, too.

Send the coupon today for a sample and descriptive booklet.

*T. M. Reg. Patented: Other patents pending



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Manufacturers and Distributors of
Weldwood® Plywood, Weldwood® Doors and Other Wood Specialties
Largest Plywood Organization in the World

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Please send a sample of NOVOPLY and descriptive booklet.

Name .....

Address .....

City ..... Zone ..... State .....

For heavy traffic areas

This modern office building features floors of Wright Rubber Tile—both in the building and in the elevators.

nothing wears as well as WRIGHT RUBBER TILE!

Look at the floor of the next elevator you see. The chances are, it has a floor of rubber tile, because no other flooring stands heavy traffic wear like rubber.

And if you could tell the make of rubber tile used, you would be surprised at how often it would be *Wright Rubber Tile.*

The next time you specify a heavy-traffic floor — remember the elevators! Then specify Wright Rubber Tile with complete confidence.

WRIGHT MANUFACTURING COMPANY
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WRIGHT RUBBER TILE

3454

FLOORS OF DISTINCTION

- WRIGHTEX—Soft Rubber Tile
- WRIGHTFLOR—Hard Surface Rubber Tile
- WRIGHT-ON-TOP Compression Cove Base

THE RECORD REPORTS

WASHINGTON

(*Continued from page 276*)

pansion at the same time as encroachment of the surrounding community has opposed it, the report notes. The situation faced by many cities comes from limitations to safe operations in existing airports combined with a physical inability to improve or extend them because homes and factories have been built close to runway ends.

$3 BILLIONS ASKED FOR '53 MILITARY BUILDING

Nearly $3 billions for bases and other military installations at home and abroad was included in the President's request to Congress last month for an additional $3,463,555,440 for Defense Department operations during fiscal 1953.

The $2,990,487,740 sought for military public works included $414,515,000 for the Army; $387,927,740 for the Navy; and $1,538,000,000 for the Air Force. Also included was a $650 million item for establishment and development of military installations and facilities overseas (administered in the office of

(*Continued on page 282*)

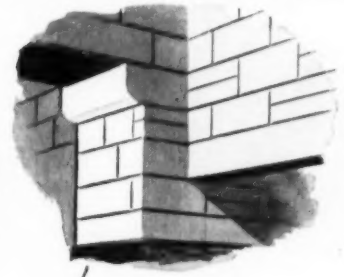
Gramercy Commercial Photographers

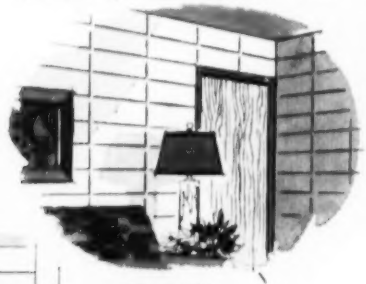
C. George Dandrow, new president of the New York Building Congress, is shown receiving the gavel from Louis Skidmore of Skidmore, Owings & Merrill, Architects, retiring president. Rear Admiral Joseph Jelley, chief of Navy civil engineers and Bureau of Yards and Docks, looks on

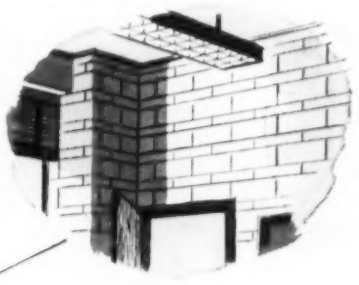
Coursed Ashlar variation with 4" & 8" units

Horizontally stacked 8" x 16" units

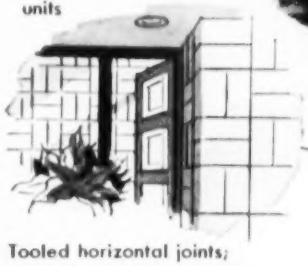
4" x 16" and 8" x 16" courses



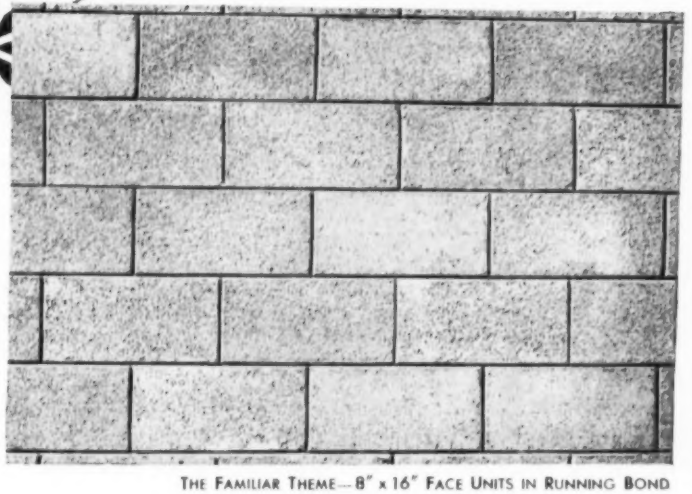




Basket-weave using 8" x 16" units

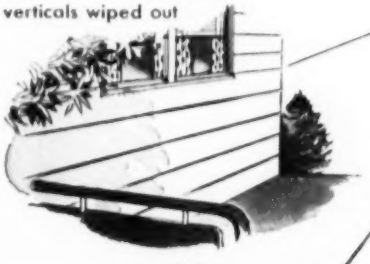


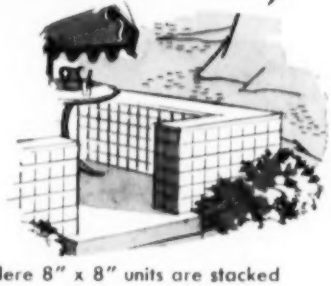
Theme and Variations



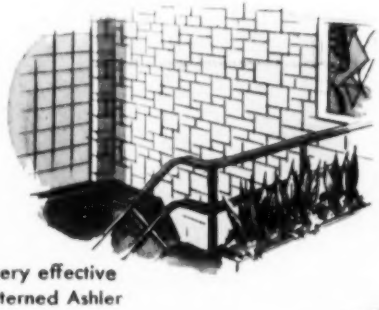
THE FAMILIAR THEME—8" x 16" FACE UNITS IN RUNNING BOND

Tooled horizontal joints; verticals wiped out





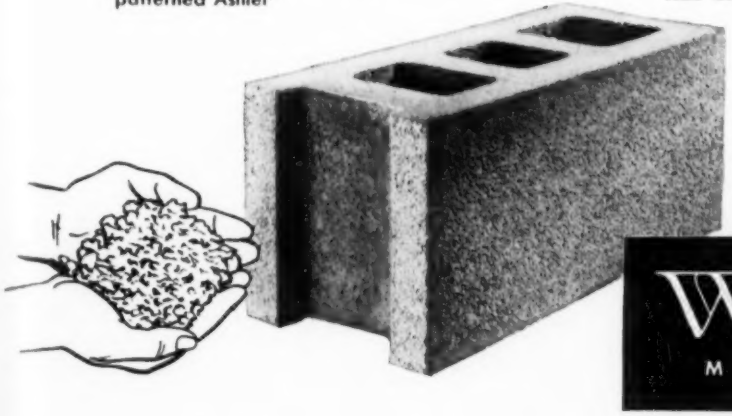
Here 8" x 8" units are stacked



A very effective patterned Ashlar

...with exposed WAYLITE Partitions and Bearing Walls

The vast musical literature of the world is limited to a maximum of 13 tones in any one octave . . . similarly there is a very wide range of harmonious effects to be obtained with Waylite masonry walls of any thickness . . . a few of the different handlings are shown here . . . they are achieved very simply. . . . Waylite masonry has adequate structural strength—superior thermal insulative qualities—and exposed Waylite interior walls need no acoustical treatment. The Waylite Co., 105 W. Madison Street, Chicago, or Box 30, Bethlehem, Pa.



WAYLITE
MASONRY UNITS

WASHINGTON

(*Continued from page 280*)

the Secretary of Defense rather than by any of the separate forces).

The supplemental budget also calls for $3,380,700 for construction of living quarters, troop housing and operational facilities for the Alaska communications system.

Barancik, Conte and Associates were architects for this machine shop and office for Z Products Company in Evanston, Ill. Brick is exposed inside and out. Shop has 8200 sq ft of floor space

The request was $37,000,000 lower than the estimates in the January budget message. It covered the projects in the annual public works bill sent to Congress by the Defense Department on May 1.

Most of the funds to support the building program in fiscal 1953 are expected to come from a $4255 million carryover from fiscal 1952 appropriations and authority.

MIDDLE INCOME HOUSING CALLED MAJOR CHALLENGE

Provision of more housing space at less cost is the greatest challenge facing the housing industry today, President Truman said in a message to the annual convention of the National Savings and Loan League.

The President echoed a growing concern of architects and home builders with his reminder that many families of moderate income are forced to choose between good houses they can't afford and "cracker boxes" too small for them to live in.

The high rate of housing construction was called an opportunity "to build the kind of housing people really need — homes with enough living space for growing families; homes that sell or rent at prices people can afford to pay."

PUBLIC HOUSING PATTERN: CONGRESS REPEATS ITSELF

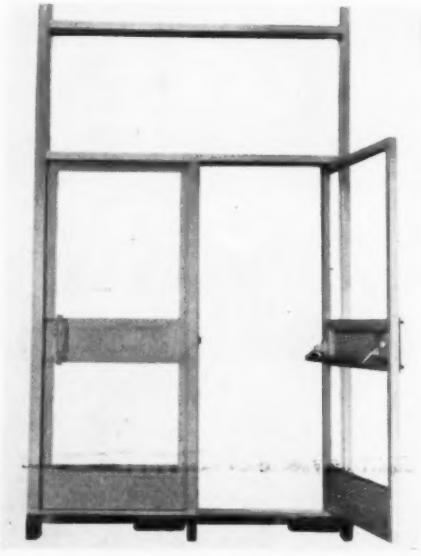
Congressional action on public housing for fiscal 1953 has followed last year's pattern, to the same accompani-

(*Continued on page 284*)

It's New! It's Different! Now Available . . .

"EXTRUD-A-LINE" NARROW STILE CENTER PANEL DOOR

For Schools and Other Public Buildings Where PANIC HARDWARE Is Required



One of the new Narrow Stile completely assembled entrances, showing the Center Panel Doors installed in the frame before shipment from the factory. Built for the South End Jr. High School, Stratford, Conn. Andrew G. Patrick, architect. Installed by State Glass Co., Hartford, Conn.

1. The new design enables the use of the finest quality panic hardware on *Narrow Stile Doors.*
2. The Center Panel conceals the crash bar of the panic hardware from outside view. Presents a most attractive appearance.
3. Added strength and rigidity at one of the most abused points of this type of door is gained by the use of the Center Panel design.

ALUMILINE EXTRUDED ALUMILITED ALUMINUM PRODUCTS

Specified by Leading Architects for

SCHOOLS • HOSPITALS • OFFICE BLDGS. • RELIGIOUS BUILDINGS STORE FRONTS • SHOPPING CENTERS • INDUSTRIAL PLANTS BANKS • HOUSING PROJECTS

- **Extruded Aluminum Store Front Construction**
- **Extruded Aluminum Factory Assembled Entrance Frames**
- **Narrow and Wide Stile Extruded Aluminum Doors**
- **Custom Built Extruded Aluminum Windows**

SEE OUR CATALOG IN

The natural beauty of Alumiline designs is enhanced and preserved by our corrosion-resistant Alumilited all-weather finish, electrolytically applied at the factory . . . helps protect from scratches and marring.

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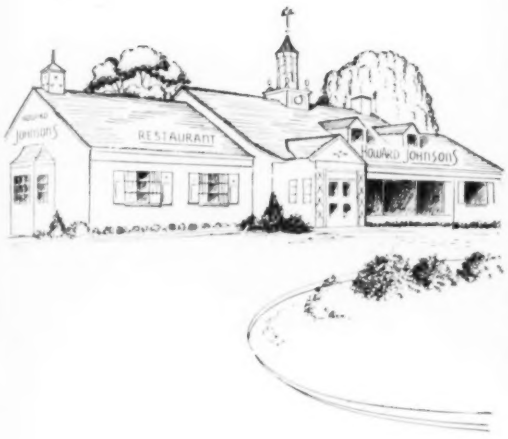
1540 Covert St., Brooklyn 27, N. Y.
Please send us, without obligations, the information checked below:
☐ Details for the New Narrow Stile Center Panel Doors.
☐ "EXTRUD-A-LINE" Entrances (D-52)
☐ "ALUMILINE" Store Front Constructions (A-52)

Firm .....
By .....
Address .....
City ..... State .....

ACOUSTICAL MATERIALS AT WORK



Main Dining Room with Armstrong's Travertone.

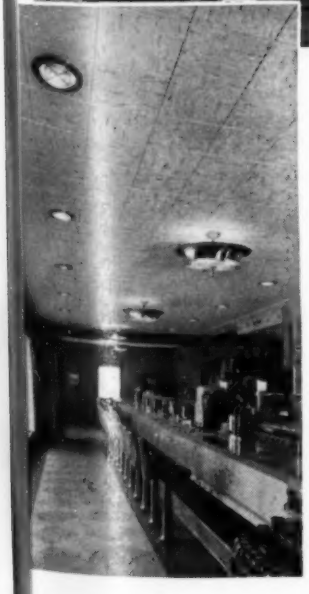
HOWARD JOHNSON RESTAURANT, Milwaukee, Wisc.

Architect: Grassold & Johnson

Associate Architect: Joseph A. Cicco

General Contractor: Peters Construction Company

Acoustical Contractor: DeGelleke Company, Inc.



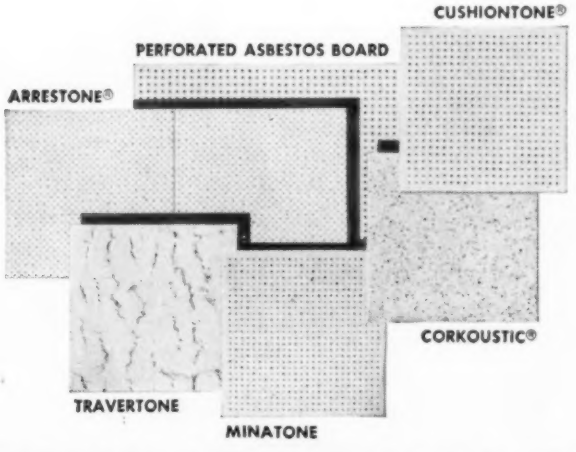
Above: Armstrong's Perforated Asbestos Board, used in the kitchen, is high in acoustical efficiency, easily maintained, and will withstand the deteriorating effects of steam.

Left: Armstrong's Travertone was used to sound condition the counter area as well as the main dining room.

A restful graciousness strikes the keynote in the dining room of this new Howard Johnson Restaurant. Missing is the disturbance of clattering dishes and trays encountered so often in restaurants. Here, patrons are welcomed into quiet, attractive surroundings. The acoustical ceiling of Armstrong's Travertone contributes much to this pleasant atmosphere.

Armstrong's Travertone is a beautifully fissured, mineral wool tile. Good looks and high acoustical efficiency, however, were not the only reasons for its choice. Incombustibility, better light reflection, and easy installation were other important factors in its favor.

Your Armstrong Contractor will be glad to give you full details on the complete line of Armstrong's Acoustical Materials. For the free booklet, "How to Select an Acoustical Material," write to Armstrong Cork Company, 2407 Stevens Street, Lancaster, Pennsylvania.



ARMSTRONG'S ACOUSTICAL MATERIALS

WASHINGTON (*Cont. from p. 282*)

ment of keening on both sides of the fence.

This year, like last, the House approved starting of 5000 units and the Senate raised the figure in its first action on the measure, this time to 45,000 units. The Senate's 1952 figure, which was ultimately enacted in the final law over considerable House protest, was 50,000.

The fiscal 1953 level of 45,000 rode out Senate debate despite considerable effort to raise it to the 75,000 asked in the President's January budget message. The basic law permits authorization of up to 135,000 units per year.

RENT CONTROL EXTENSION URGED BY SENATE GROUP

Extension for another year of the Housing and Rent Control Act of 1947 was recommended in the report of the Senate's Banking and Currency Committee on extension of the Defense Production Act.

Acute housing shortages and excessive rents have "directly and immediately" threatened defense activities in more than 100 communities, the report stated, although five-sixths of all rental units subject to regulation were in areas not yet designated as critical defense housing areas. The committee pointed out that the major U. S. industrial potential is located in the same areas.

Urban Areas Hardest Hit

In its summary of the recent pattern in housing construction, the committee remarked that the decrease in the rate of new construction in established population centers has been even greater than the percentage decline for the nation as a whole — rental units in 1951 were 21 per cent under 1950, 17 per cent under 1949, but much of the new construction in recent months has been concentrated in smaller communities which are close to isolated military installations and defense plants.

The report also noted that most of the new rental housing in established population centers demand rents far beyond the financial means of a large segment of the population.

No prospect of reversing the trend and making substantial nationwide progress on meeting the increased backlog of housing demand was seen before June 30, 1953.

SENATE OKAYS NEW FUNDS: $1.4 BILLION FOR HOUSING

Additional funds amounting to some $1.4 billions for various phases of the housing program were authorized in the version of the new housing bill (S.3066) passed by the Senate. The House Banking Committee had the bill next on its agenda after the Defense Production Act.

The new authorizations, which represented a 50 per cent cut from the original proposals, included a $900 million increase in advance commitment authorizations for the secondary market for the Federal National Mortgage Association; an additional $400 million for the Federal Housing Administration insurance of home mortgages; $40 million to aid construction of community facilities in defense areas (bringing this program to $100 million); $50 million for direct housing construction by the federal government in areas where private

(*Continued on page 286*)

For its Schools Ohio also Prefers

KEWANEE

STEEL BOILERS

Like practically every other state in the Union, Ohio has definitely gone Kewanee when it comes to selecting heating boilers. In every large city, and in most smaller communities, one finds Kewanee providing dependable heat for buildings of all types and sizes. The three Ohio schools pictured are typical examples.

NORTH STREET SCHOOL, Rittman
SPAHN & BARNES, Architects
VINCENT EATON, Engineer
Kewanee Type "C" installed by
KRAUS PLBG. & HEATING CO.

STREETSBORO TOWNSHIP SCHOOL
Streetsboro, Ohio
C. G. KISTLER, Architect and Engineer
Stoker Fired Kewanee "C"
installed by
AUGUST ANDERSEN & SONS

ROOSEVELT HIGH SCHOOL, Kent.
C. G. KISTLER, Architect and Engineer
Kewanee Type "C" installed by
AUGUST ANDERSEN & SONS

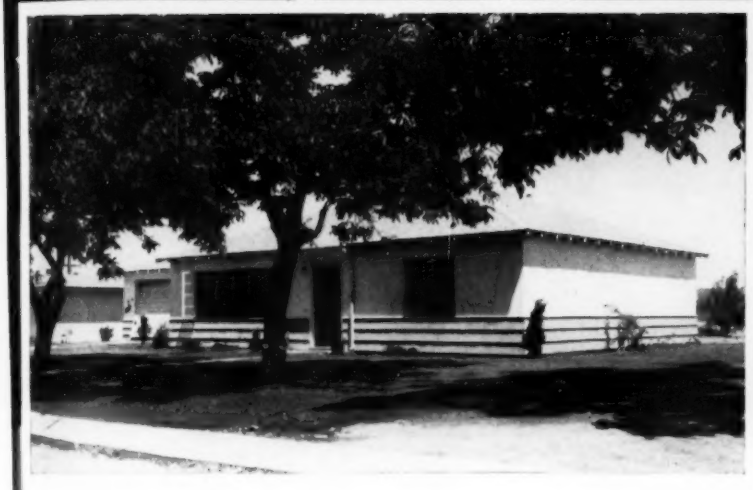
Two stoker fired Kewanees in the Roosevelt High School

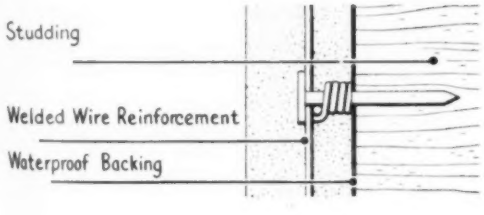
KEWANEE-ROSS CORPORATION
Division of American Radiator & Standard Sanitary Corporation
KEWANEE, ILLINOIS

Heating America's Finest Buildings

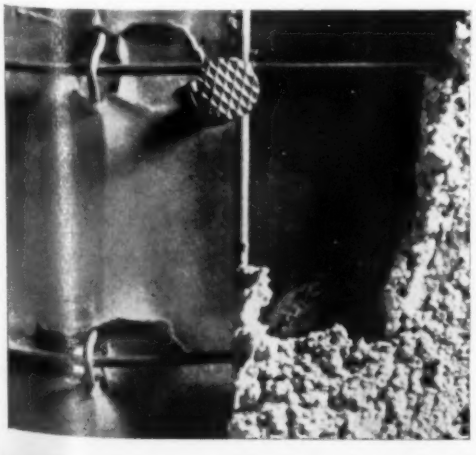
Serving home and industry

AMERICAN STANDARD · AMERICAN BLOWER · CHURCH SEATS · DETROIT LUBRICATOR · KEWANEE BOILERS · ROSS HEATER · TONAWANDA IRON





Note from the drawing above and the photo below how the rigid, welded-wire Steeltex mesh bites deep into the stucco slab and actually strengthens the entire wall. Notice also the tough double-ply waterproof backing (applied in the same application). It not only protects the structure, it assists proper curing of the stucco slab.



Steeltex for stucco direct to studs saved money on every unit of this low-cost housing development

To be able to build quality 7-room houses with 1½ baths, 1,232 square-feet of living space and attached garages to sell for $8,100, took mighty careful planning on the part of Lionel J. Tilson, president of the Tilson Construction Company of Santa Clara, California. Here is what Mr. Tilson said of the use of Steeltex-for-stucco, direct to studs in his El Quito Park Development where these sensational housing values are offered:

"Steeltex-for-stucco—Style 38-16—was used in this low-cost housing development for three reasons: (1) Steeltex saved me money on each and every unit; (2) Steeltex greatly reduces cracking, which means less maintenance work; (3) The portion of the work using Steeltex was sublet to a contractor without further worry on my part."

For details on how you too can take advantage of the stronger, more economical walls offered by Steeltex for Stucco, see our catalog data in Sweets' or write for catalog D.S. 131, Dept. AR, Pittsburgh Steel Products Company, Grant Building, Pittsburgh 30, Pennsylvania.

Pittsburgh Steel Products Company

A Subsidiary of Pittsburgh Steel Company

industry does not "show a willingness" to provide the needed shelter; and smaller amounts for Alaska housing under the direct housing construction program of the government there and for farm housing.

More Buying Power for FNMA

The $900 million increase for FNMA has the effect, without expressly providing for it, of releasing about $360 million for regular over-the-counter purchases. This was expected to yield an important source of secondary credit for GI home loans as well as some FHA loans in non-defense areas.

703 CONSTRUCTION CASES HANDLED BY NLRB IN '51

Construction cases handled during fiscal 1951 by the National Labor Relations Board totaled 703, the Board's annual report reveals.

Of the total, 416 were in the unfair labor practice category; 237 of the representation type; and 50, union shop violations.

Intercontinental Hotels Inc. is opening its new Victoria Plaza Hotel in Montevideo, Uruguay this summer. Architects: Sanchez Elia, Peralta Ramos, Agostini

ADDENDA

• Expenditures for new construction in 1952 are expected to set a new record of more than $32 billion, according to the recent analysis of the Building Materials Division of the U. S. Department of Commerce and the Bureau of Labor Statistics of the U. S. Department of Labor.

Increased expenditures for military and atomic energy facilities are held the main factors in the increase of about $1 billion over the revised 1951 total.

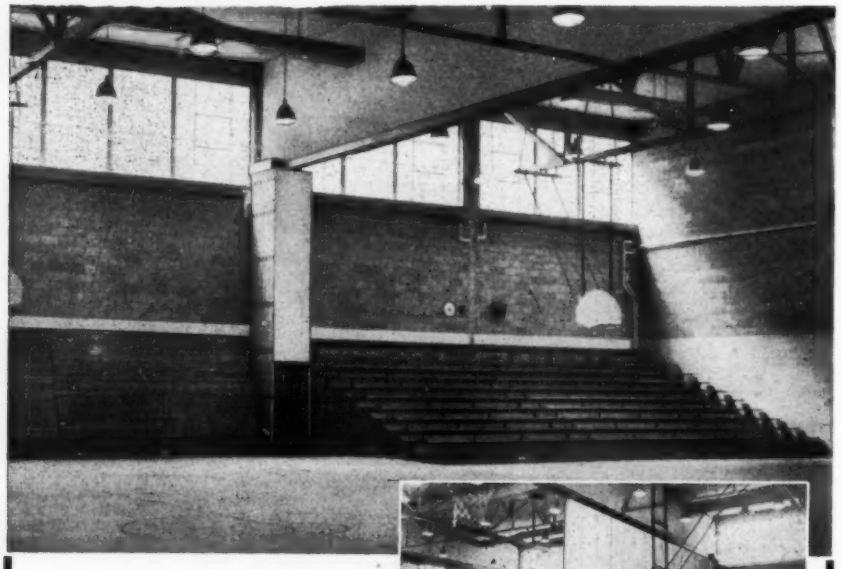
According to the statement, private investment of over $21 billion will be about the same as last year's total; but public outlays of nearly $11 billion will represent an increase of $1.6 billion, or 17 per cent, over 1951.

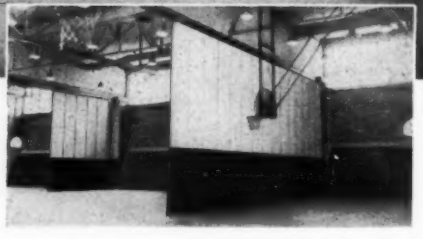
• Construction of 830 industrial expansion projects with an estimated cost of more than $1 billion was given a green light in National Production Authority approval of applications for third quarter allotments of materials.

The remaining backlog of 128 projects with an estimated cost of some $395 million compares with a second quarter backlog of 1253 industrial expansion projects with an estimated cost of about $6 billion.

(*Continued on page 288*)

flexible GYMNASIUM PLANNING





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FOLDING GYM SEATS
FOLDING PARTITIONS

HORN, since 1909, manufacturers of HORN FOLDING PARTITIONS AND HORN FOLDING GYMSEATS, offer gym planning designed to utilize valuable gym space. Compact, efficient and engineered for years of trouble free operation, a HORN installation is factory supervised from the start to the finish. From coast to coast HORN FOLDING BLEACHERS AND GYMSEATS are filling the needs of flexible gym planning. Horn Representatives in your locality, can give you a complete appraisal of your requirements. For the finest in gym planning always specify and insist on HORN.

WRITE FOR THE NEW HORN CLASSROOM WARDROBE FOLDER→

Horn Brothers Company
SCHOOL EQUIPMENT DIVISION
ESTABLISHED 1909 FORT DODGE, IOWA, U. S. A.
MANUFACTURER OF FOLDING PARTITIONS, FOLDING GYM SEATS, FOLDING STAGES, CLASSROOM WARDROBES

Could she be your client?

Annabel and her
Purpureum
Grandiflorum
Pity poor Annabel and her torn up azaleas. It all started with the shade trees whose roots grew right through the sewer line, clogged the pipe. The plumber came in . . . and out came the azaleas. But that can happen when it's not cast iron.
CAST IRON CAN TAKE IT!

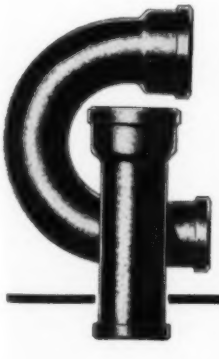
There's no easy way out for the home owner when a sewer line needs major repairs. But there *is* a way for you to make sure the situation never arises. Specify ***permanent* Cast Iron Soil Pipe and Fittings** for the homes you design.

Corrosion-resisting cast iron is insurance against wrecked walls and torn-up lawns. It stands abuse inside the house; resists vibration, ground settlement and heavy loads outside. Caulked with oakum and sealed with lead, its joints are tight but flexible, completely impervious to tree roots. A plumber can put a clean-out auger through cast iron without fear of puncturing its walls.

Cast iron soil pipe is the only material with a proven record for permanence, the only material permitted by *all* plumbing codes for a complete installation *from street to roof*. You can act with complete confidence when you specify **Cast Iron Soil Pipe and Fittings.**

CAST IRON SOIL PIPE INSTITUTE
Heurich Building, 1627 K. Street, N. W.
Washington 6, D.C.

From one of a series of advertisements now appearing in the
"Saturday Evening Post"



CAST IRON SOIL PIPE INSTITUTE

This advertisement is sponsored by

Alabama Pipe Company
The American Brass & Iron Foundry
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Sanitary Company of America
Somerville Iron Works
Tyler Pipe & Foundry Company
Walker Machine & Foundry Corporation
Western Foundry Company
Williamstown Foundry Corporation

THE RECORD REPORTS

(*Continued from page 286*)

• Korean veterans will get the same housing benefits now available to World War II servicemen under the G.I. Bill of Rights when the Rankin bill to amend the Servicemen's Readjustment Act becomes law.

As passed by the House (361-1), the bill authorizes guaranty of loans up to 60 per cent with maximum guaranty of $7500 and direct loans up to $10,000 each in non-metropolitan areas where private financing cannot be secured; all interest rates at four per cent.

The National Association of Home Builders was objecting violently to the warranty provision to apply in favor of the veteran purchaser, showing that the house was construction in substantial conformity with the plans and specifications on which the federal agency based its valuation in guaranteeing the loan.

Put **America's most beautiful flooring** in that new office building...

Amtico RUBBER FLOORING

AMERICAN BILTRITE RUBBER COMPANY TRENTON 2, NEW JERSEY

Also makers of Biltrite NURON for Shoe Soles, Luggage and Accessories—and Biltrite Rubber Heels

AFFILIATES... BILTRITE RUBBER COMPANY, CHELSEA 50, MASS. • AMERICAN TILE & RUBBER CO., TRENTON 2, N. J. • PANTHER-PANCO RUBBER CO., CHELSEA, MASS. • AMERICAN TILE & RUBBER CO. (CANADA) LTD., SHERBROOKE, QUEBEC • PANTHER RUBBER CO., LTD., SHERBROOKE, QUEBEC, CANADA

SAMPLES ON REQUEST

AMTICO, Dept. AR10, Trenton 2, New Jersey

Gentlemen:

Please send me free box of 4" x 4" samples of Amtico Flooring in standard 1/8" gauge and all 26 stock colors—also illustrated literature.

NAME.....

FIRM.....

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CITY..... STATE.....

• No significant increase in consumption of construction materials is expected by the National Production Authority as a result of its forthcoming moves to liberalize CMP Reg. 6 and M-100. DPA-NPA Administrator Henry H. Fowler expects only a shift within the total building program of the nation: a switching of emphasis from defense-supporting construction to civilian industrial uses.

Opening of the "amusement" building field to self-authorization is not expected to consume any significant amount of controlled materials. For example NPA has been estimating probable consumption of copper in the field for the balance of 1952 at 90 tons.

• Five houses to be constructed by private builders at the direction of the University of Illinois and New York University under research contracts with the Housing and Home Finance Agency will demonstrate new techniques for low-cost small house construction.

Purpose of the project is to demonstrate to builders new research developments in house planning and construction designed to make more efficient use of materials and labor in home building, HHFA explained. Cost and visual records will be kept on all the houses.

Two of the units are under construction at Urbana, Ill.; three will be built at Hartsdale, N. Y.

ON THE CALENDAR

July 10–11: Annual Indiana and Midwest School Building Planning Conference, sponsored by the School of Education, Indiana University — School of Education, Indiana University, Bloomington, Ind.

July 10–31: Summer school for study of English architecture and social history — Attingham Park, Shropshire, England.

July 12–Aug. 23: Third Annual Design Workshop for American students of architecture and city planning — Instituto Tecnologico de Monterrey, Mexico. Details from: Prof. Hugh L. McMath, School of Architecture, University of Texas, Austin 12, Tex.

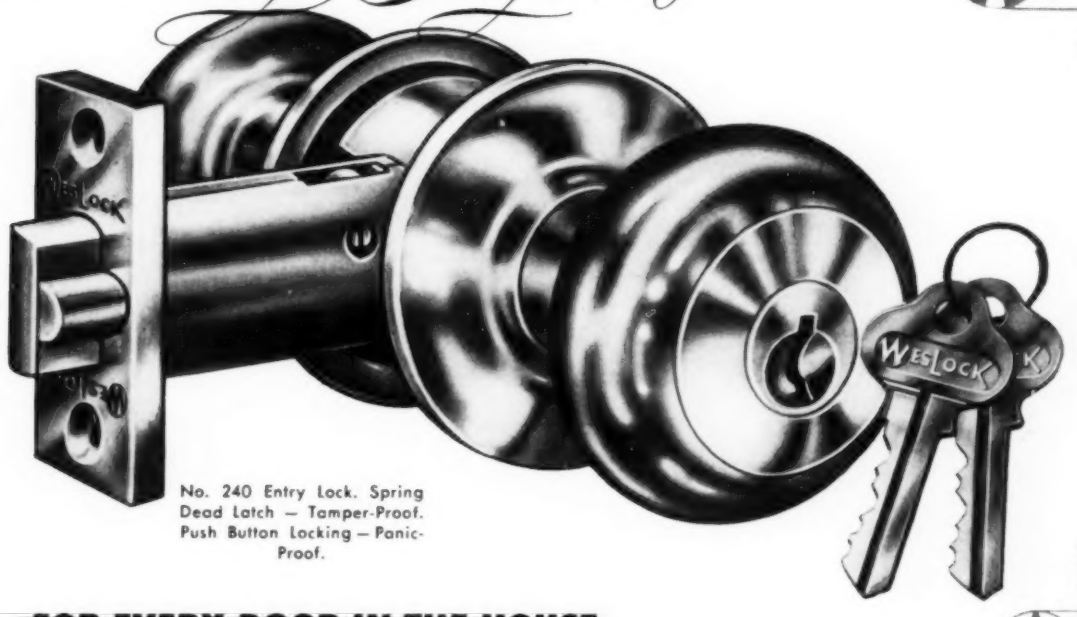
July 24–26: Fifth Annual University of Michigan Conference on Aging — Ann Arbor, Mich.

Aug. 1–2: Midsummer Conference, Michigan Society of Architects — Grand Hotel, Mackinac Island.

Aug. 9–23: York Summer School of

(*Continued on page 290*)

Smartly Styled



No. 240 Entry Lock. Spring Dead Latch — Tamper-Proof. Push Button Locking — Panic-Proof.

...FOR EVERY DOOR IN THE HOUSE

ACCEPTANCE of WESLOCKS by architects, builders and lending institutions for use on many of the nation's largest building projects is evidence of the outstanding values the line offers. For example, all WESLOCKS have an easy spring latch with a light spring for the bolt and heavy-tension knob return—a feature found only in the most expensive locks. Also, WESLOCKS have key-in-knob construction, 5-pin tumbler locking mechanism for maximum security, split spindle, independent knob operation, factory assembled units, self-aligning feature and a wide choice of handles, ornamental escutcheons and finishes. Best of all, WESLOCKS are priced to meet the most modest budgets. Truly, they offer you the best hardware value at any price. Send today for catalog.

Another WESLOCK *installation.*
Park Forest, Illinois. Contains a total of 3,010 apartments, 5,000 homes, a shopping center and light industrial area...
living units are WESLOCK equipped.
Architects: Loebl, Schlossman & Bennett Chicago, Ill.
Builder: American Community Builders, Inc. Chicago, Ill.
Hardware Contractor: Schuham Hardware Co., Chicago, Ill.

WESTWOOD MANUFACTURING CO.
P.O. Box 2261, Terminal Annex
Los Angeles 54, California

WESLOCKS

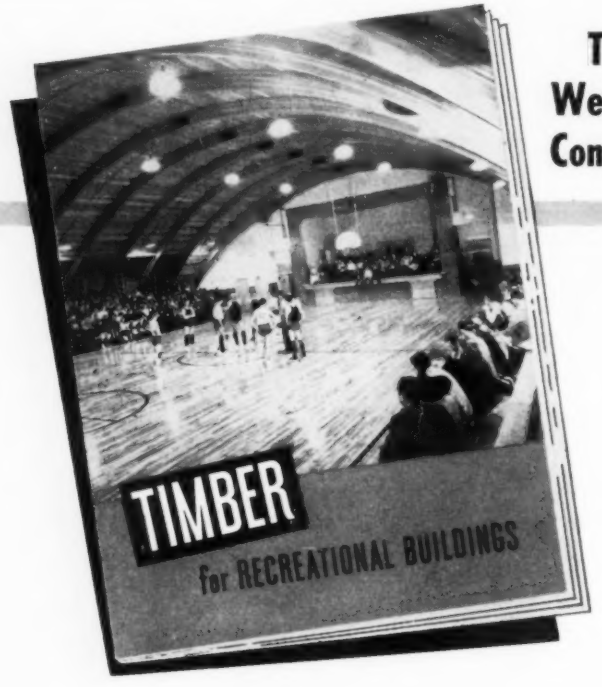
THE RECORD REPORTS

(*Continued from page 288*)

Architectural Study. Details from Secretary, York Civic Trust, St. Anthony's Hospital, Peasholme Green, York, England.

Sept. 2–Oct. 13: Two Houses: New Ways to Build. Models of Kiesler's "endless" house and the "dome" by Fuller shown with color slides, drawings and photographic enlargements — Museum of Modern Art, 11 W. 53rd St., New York City.

United States Plywood has opened a new sales and distribution unit at High Point, N. C. Construction is brick and concrete. Architect: G. Milton Small, Raleigh, N. C.



TECO Wedge Fit Connectors

Now that you can design gymnasiums, field houses, theatres, bowling alleys, community buildings and recreation centers again, you will want our new 24-page pictorial booklet, "Timber for Recreational Buildings". It pictures many types of recreational buildings constructed of plentiful lumber, using the three popular systems of timber construction—Teco connector, glued laminated and Lamella.

When specifying connectors and grooving tools, always specify Teco products. Our WEDGE FIT connectors and high-speed grooving tools do the job right.

Our booklet is FREE — mail the convenient coupon today.

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Please send me FREE copy of "Timber for Recreational Buildings"

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AR

Sept. 8–10: Third National Standardization Conference, sponsored by the American Standards Association (in conjunction with Centennial of Engineering) — Museum of Science and Industry, Chicago.

Sept. 8–12: National Technical Conference, Illuminating Engineering Society — Edgewater Beach Hotel, Chicago.

Sept. 15–18: Annual Convention, American Hospital Association — Philadelphia.

Sept. 15–20: Third International Symposium on Chemistry of Cement, organized by Building Research Station of Department of Scientific and Industrial Research and Cement and Concrete Association — London, England. Details from: Division of Building Research, National Research Council, Ottawa, Ont.

Sept. 18–28: Fourth Annual National Homefurnishings Show — Grand Central Palace, New York City.

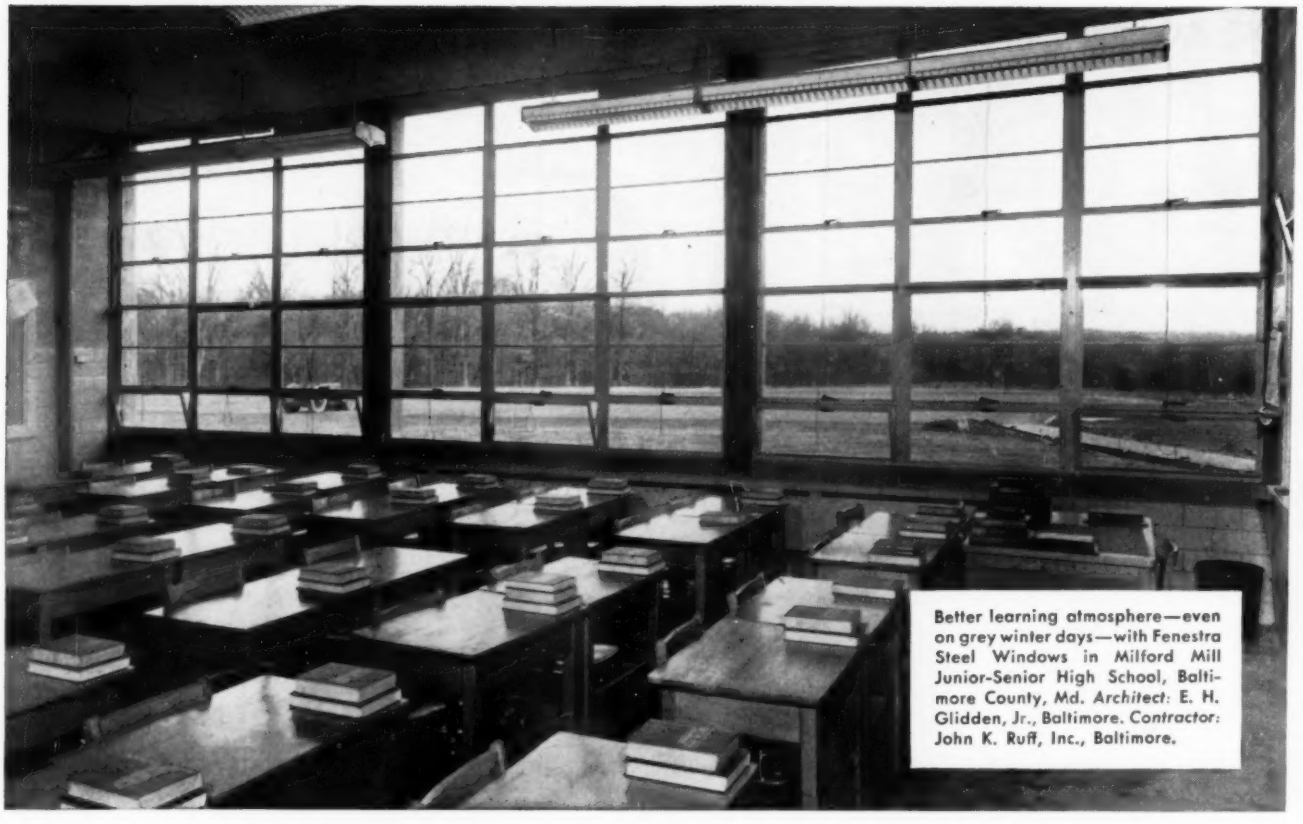
Sept. 24–Nov. 30: Good Design 1952; a large selection of the home furnishings on view in Chicago at the Merchandise Mart chosen from the January and June exhibitions this year — Museum of Modern Art, 11 W. 53rd St., New York City.

OFFICE NOTES

Offices Opened

• Huntington and Brelsford, Architects, announce the opening of their new of-

(*Continued on page 292*)



Better learning atmosphere—even on grey winter days—with Fenestra Steel Windows in Milford Mill Junior-Senior High School, Baltimore County, Md. *Architect:* E. H. Glidden, Jr., Baltimore. *Contractor:* John K. Ruff, Inc., Baltimore.

Better atmosphere for learning developed by FENESTRA'S Daylighting System

The proper correlation of steel windows, controls, decoration and seating provides new high standards of daylighting for classrooms — develops a better atmosphere for learning—and does it economically!

That was proved conclusively after two years of extensive research at Southern Methodist University by R. L. Biesele, Jr., Lighting Expert, and his staff.

First, you need to bring a *lot* of daylight into the room—nothing brings in more light than clear glass. The intake of light can be controlled with simple shades to give students the *right amount* of light for each task. Light-reflective room surfaces, of course, spread the incoming light throughout the room.

For the best daylighting, an environment of comfort and alertness and brightness—you need a ceiling-high, wall-to-wall, bank of slim-lined, *economical* Fenestra* Intermediate Steel Windows. They don't shut out the light . . . they bring it in. Even on dim days daylight fills the room. (As you can see from the picture above.) And they don't give students a closed-in, trapped feeling—they give them a wide-open view.

Fenestra Windows give you more glass area, more daylight, more view than most windows because their frames are especially designed to be strong without being bulky. You get controlled fresh air through protecting vents . . . even when rain is pouring down! You get economical upkeep because Fenestra Windows are washed and screened from *inside. And they are available Super Hot-Dip Galvanized, on special order, to eliminate any need for maintenance-painting.*

Fenestra Windows are the mark of a *modern* school . . . a school *children like.* For full information call the Fenestra Representative. Or mail the coupon.

WINDOWS THAT OPEN YOUR SCHOOL TO DAYLIGHT...

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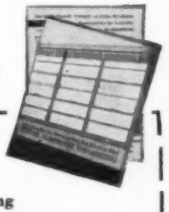
FREE AUTHORITATIVE BOOKS . . .



Detroit Steel Products Company
Dept. AR-7, 2252 E. Grand Blvd., Detroit 11, Mich.
Please send me: ☐ Better Classroom Daylighting
☐ Fenestra Hot-Dip Galvanizing

Name_____

Address_____

THE RECORD REPORTS

(*Continued from page 290*)

fices at 370 W. 7th Ave., Denver 4, Col.

New Firms, Firm Changes

• Charles Henry Conrad and George Bain Cummings have announced the admission to associateship of their sons, Charles Henry Conrad Jr., engineer, and John Butler Cummings, architect. Offices will remain at 90 Collier St., Binghamton, N. Y.

• Joseph T. Gemmi, A.I.A., announces his association with Frank A. Amodio and William C. Martucci in the practice of architecture, with offices at 24 Walnut St., Newark 2, N. J.

• The partnership of Francis W. Puckey and Austin D. Jenkins was dissolved as of April 30. Austin D. Jenkins and Claude W. Thomason have formed a partnership for the practice of architecture with offices at Room 2100, Wrigley Building, Chicago.

• Cyrus Silling has announced that the firm name Tucker and Silling has been changed to C. E. Silling and Associates.

• L. G. Tucker and Glenn C. Hancock have associated under the name of Tucker & Hancock, Architects, 608 Atlas Bldg., Charleston, W. Va.

New Addresses

The following new addresses have been announced:

Allen-Calleri Corporation (formerly Allen-O'Neill Associates Inc.) and Allen Engineering Associates (successor to Allen Associates Inc.), 670 Monadnock Bldg., San Francisco 5, Calif.

George W. Boylan, Architect, River Road, Route 24, New Brunswick, N. J.

William Hoskins Brown, Architect, 125 Tremont St., Boston, Mass.

Conrad J. Curtis, Architect, 8207 Hemlock, Overland Park, Kan.

Easterwood & Easterwood, Architects, 522 Neil P. Anderson Bldg., Fort Worth, Tex.

Arne Engberg, A.I.A., 2130 Welch St., Houston, Tex.

John Lyon Reid, A.I.A., 1069 Market St., San Francisco 3, Calif.

Isadore Rosenfield, Architect, 45 W. 45th St., New York 36, N. Y.

Wirtz, Calhoun & Tungate, Architects, 2506 Richton St., Houston, Tex.

Goleman & Rolfe, Architects, 5100 Travis St., Houston, Tex.

WEATHER STRIPS FOR SLIDING DOORS

Open to All Outdoors

Yet . . . THESE SLIDING DOORS Are Fully WEATHER-PROTECTED BY "ACCURATE"

Open or close in seconds. Gliding quietly, smoothly, almost without effort, on "Accurate" Weather Strip Saddles and Sheaves. Today, Mr. and Mrs. America *want* sliding doors. This is evidenced by the plans of leading Architects from Coast to Coast who not only provide for sliding doors, but are careful to specify "Accurate" fittings for best performance.

ACCURATE

For doors and windows of all types, "Accurate" Metal Weather Strip is unsurpassed. Write for working drawings, or if you prefer

ASK FOR ILLUSTRATED FOLDER

ACCURATE METAL WEATHER STRIP CO., Inc.

215 EAST 26th STREET, NEW YORK 10, N. Y.

WITH THE A.I.A.

New Hampshire Elects

Eugene Magenau was reelected president of the New Hampshire Chapter of the American Institute of Architects at the Chapter's recent annual meeting.

Other officers elected were: Leo P. Provost, Manchester — vice president; William L. White, Exeter — secretary; Robert Snodgrass, Nashua — treasurer; and John D. Betley, Manchester, director, succeeding Stephen P. Tracy, Nashua.

The New Hampshire architects held their annual meeting as a joint session with engineers and contractors.

Ferriss Named in New York

The New York Chapter of the American Institute of Architects has elected

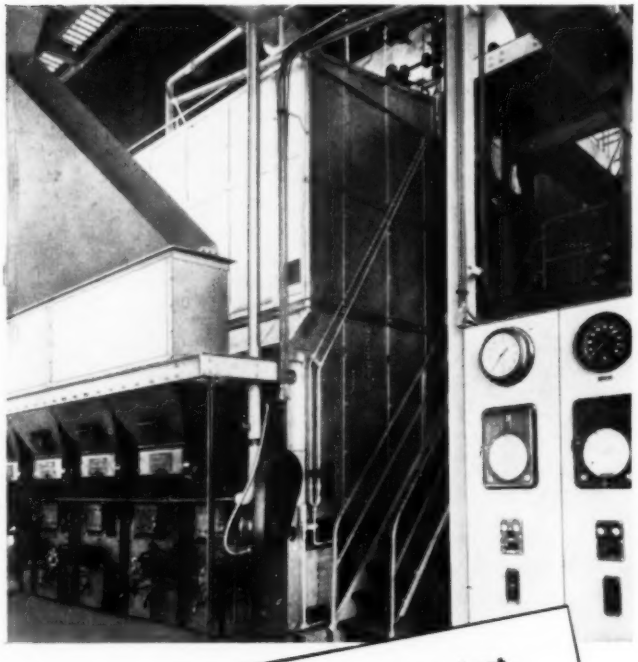
(*Continued on page 294*)

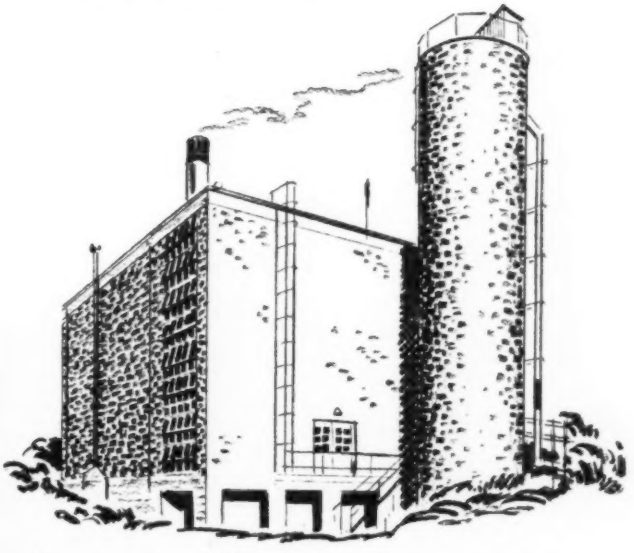
"HOW WE SAVE MORE THAN $90,000 A YEAR—

BY BURNING COAL THE MODERN WAY!"

says W. H. FISHER, Plant Engineer, Kerr Bleaching and Finishing Works, Concord, North Carolina.

"Powering our plant used to take nine boilers—now *one* does the same job *using 30% less fuel!* 6 firemen now do the work of 18—thanks to modern coal-handling equipment and automatic controls. That's why we say, you can't beat bituminous coal burned with modern equipment."





Above is a view of the plant's modern, space-saving coal-storage silo. To the left is a close-up of the firing aisle, showing the spreader stoker and the main control panel. Coal handling is automatic and dust-tight throughout. Automatic controls regulate firing, drafts and feed-water—give maximum efficiency at lowest cost.

If you operate your own steam plant, you can't afford to ignore these few down-to-earth facts!

COAL in most places is today's lowest-cost fuel.

COAL resources in America are adequate for all needs—for hundreds of years to come.

COAL production in the U. S. A. is highly mechanized and by far the most efficient in the world.

COAL prices will therefore remain the most stable of all fuels.

COAL is the safest fuel to store and use.

COAL is the fuel that industry counts on more and more—for with modern combustion and handling equipment, the inherent advantages of well-prepared coal net even bigger savings.

Burning coal the modern way can save *you* money, too! First, labor costs can be cut to a minimum with up-to-date coal- and ash-handling equipment. On top of that, today's combustion installations give you 10 to 40% more power from each ton of coal than was possible a few years ago!

If you're planning to modernize, or if you're building a new plant, call in a consulting engineer. He'll show you how you can get big savings by burning coal in a modern plant designed to meet your *specific* needs.

America's coal reserves are virtually inexhaustible; America's coal industry is the world's most productive and efficient. That's why coal has a future dependability of supply that no other fuel can offer. That's why, of all fuels, the price of coal is most likely to remain stable.

BITUMINOUS COAL INSTITUTE

A Department of National Coal Association, Washington, D. C.

FOR HIGH EFFICIENCY FOR LOW COST

YOU CAN COUNT ON COAL!

(*Continued from page 292*)

Hugh Ferriss as its president to succeed Francis Keally.

Geoffrey Platt was elected vice president; Harmon H. Goldstone, secretary; and Eldredge Snyder, treasurer.

The Chapter awarded its Medal of Honor to the firm of Mayer & Whittlesey for "distinguished work and high professional standing." Awards of Merit went to R. Buckminster Fuller, in recognition of his original concepts of space enclosures, and to Cleveland Rodgers, for his services to the New York City Planning Commission, from which he recently retired.

AT THE COLLEGES

Planning Course Initiated

The inauguration next September of a two-year graduate course in city planning has been announced by Harold Bush-Brown, director of the School of Architecture at Georgia Institute of Technology.

The course, which will be directed by Howard K. Menhinick, Regents' Professor of City Planning, formerly director of regional studies at TVA, will be limited to 20 students. Applications are now being accepted from students with a bachelor's degree.

M.I.T. Planning Conference

City planning and urban redevelopment will be the subjects of a special three-weeks conference beginning Tuesday, September 2, at the Massachusetts Institute of Technology.

Particular attention will be given at this fourteenth annual session of the conference to the technical, administrative and legislative aspects of urban redevelopment as it relates to the comprehensive planning of urban areas.

Seminars will be held each morning and afternoon of the conference under the general direction of Louis B. Wetmore, formerly director of the Providence Redevelopment Agency, who will have the assistance of members of the faculty of the M.I.T. Department of City and Regional Planning, sponsors of the conference, and members of the technical staff of the Division of Slum Clearance and Urban Redevelopment of the U. S. Housing and Home Finance Agency.

Requests for further information and letters of application should be sent

(*Continued on page 296*)

Why America's Foremost Architects Specify

HILLYARD FLOOR TREATMENTS

*Terrazzo lobby, Rice Field House. *Products:* Hillyard TERRAZZINE for slow curing hardness; ONEX-SEAL for a safe lasting finish.

Architects: Milton McGinty, Walter P. Moore, Lloyd and Morgan, Houston, Texas.

This attractive floor, and thousands like it in schools, hospitals, institutions, reflects the intelligent planning of outstanding architects—with the best use of modern Hillyard products—and the guidance of the Hillyard floor expert. Hillyard Care, designed to aid architects from construction stages through to finished beauty, can do an outstanding job for you! In *any* building you plan, Specify Hillyard.

Write for the name of the Hillyard Maintaineer near you for free help with any floor problem. AIA "specs" free on request.

Some Famous New Hillyard-specified installations

- Wyoming's Memorial Stadium, Laramie, Wyo. *Arch. Porter and Bradley*
- Sacred Heart Hospital (addition) Spokane, Wash. *Arch. G. Albin Pehrson & Associates*
- Pius XI High School, Milwaukee, Wis. *Arch. Mark F. Pfaller*
- Euclid High School, Euclid, Ohio *Arch. Fulton, Krinsky & Dela Motte*
- Congregational Church, San Diego, Calif. *Arch. Walter C. See*
- Mission of Our Lady of Mercy, Chicago, Illinois *Arch. Barry and Kay*
- Alamo Stadium, San Antonio, Texas *Arch. Phelps, Dewees, Simmons*
- Barrington Illinois High School Barrington, Illinois *Arch. Perkins and Will*

FLOOR HILLYARD TREATMENTS

St. Joseph, Missouri

SEE OUR CATALOG IN SWEETS

Branches in Principal Cities

New officers of the National Savings and Loan League: Clifford P. Allen, first vice president; Miss Mary C. Kelly, secretary; Raleigh W. Greene, president, and Alfred G. Peterson, second vice president. Oscar Kreutz (not shown) is executive manager

THEY SAY:
"It's Air Conditioning at its very best"

One of many modern pharmacies that depend on Ready-Power.

More and more super markets are using Ready-Power.

The "Frida," a Banana Boat, is Ready-Power equipped.

The Casa Linda theatre saves many dollars with Ready-Power.

Ready-Power air-conditioning is ideal for churches

Wherever used, Ready-Power has met the test of operating efficiency to the full satisfaction of the user.

Ready-Power air conditioning equipment is planned and designed to meet the most exacting requirements with the lowest possible operating costs.

Ready-Power design permits *continuous* operation at varying speeds, which is far superior to "on and off" types. This means that the air conditioning system performs at reduced capacity allowing for a constant dehumidification of the fresh air supply.

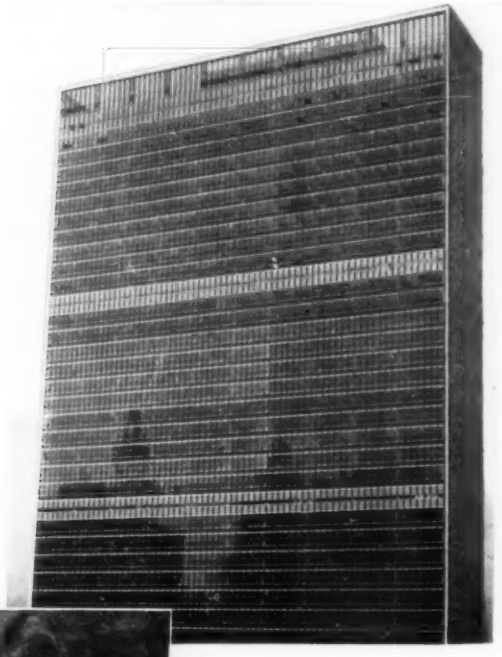
The dependable and economical performance of Ready-Power has been proved in hundreds of installations. Names of users will be furnished on request.

READY-POWER
SAVES AS IT SERVES

THE READY-POWER CO.
11231 FREUD AVE. • DETROIT 14, MICH.

Manufacturers of Gas and Diesel Engine Driven Generators and Air Conditioning Units; Gas and Diesel Electric Power Units for Industrial Trucks.

Fine Veneers Enhance the **MODERN**



Moonshine Crotch, walnut veneer

The United Nations Building is an outstanding example of fine veneers and modern form combined to create beauty. We were proud to have been selected as one of the suppliers of the veneer used in the U.N. Building.

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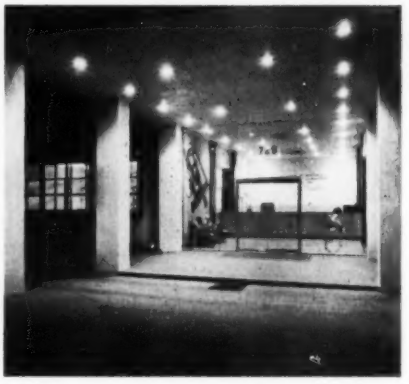
THE RECORD REPORTS

(*Continued from page 294*)

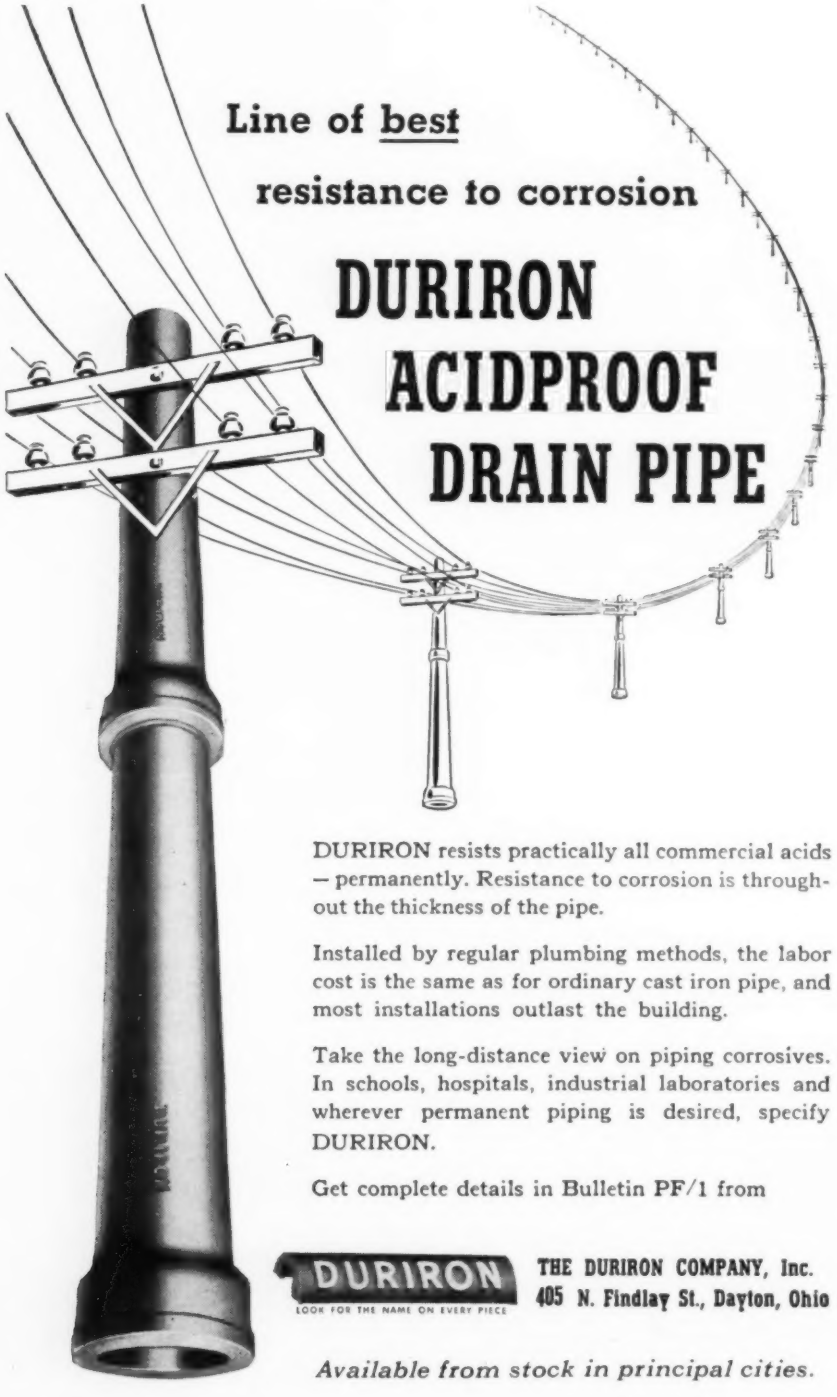
to: Prof. Frederick J. Adams, Room 7–333, 77 Massachusetts Ave., M.I.T., Cambridge 39, Mass.

Booth Winner Announced

The College of Architecture and Design of the University of Michigan has announced the award of the George G. Booth Traveling Fellowship for 1952 to James Harold Livingston of Ann Arbor. Mr. Livingston plans to travel in England and on the continent.



Entrance of Aluminum Lock Shingle Company's new combination sales office and warehouse building in Portland, Ore. Doorway has aluminum trim. Architect: Morgan H. Hartford



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AWARDS

• Four awards for outstanding contributions in the field of housing and redevelopment are being offered again this year by the National Association of Housing Officials.

Nominations will be accepted at the Association's offices, 1313 E. 60th Street, Chicago, until August 1. One award is made to an individual, three to housing or redevelopment agencies. Complete information may be obtained from the Association.

• T. A. Emma of the University of Notre Dame won first award of $75 in the Beaux-Arts Institute of Design's Class A competition for the Tile Council of America prize. Second award of $25 went to B. Romanowitz of Princeton University. The problem was an air line bus terminal on a midtown site for a city of 2,500,000.

• Harold S. Ellington of Harley, Ellington & Day, Architects & Engineers, Detroit, has received the Chicago Institute of Technology's distinguished service award for professional achievement in engineering science.

OBITUARY

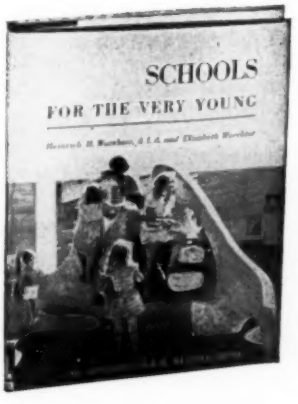
LORENTZ SCHMIDT, F.A.I.A., the only practicing architect from Kansas so far to be elected to Fellowship in the American Institute of Architects, was honored in a memorial resolution passed by the March meeting of the Institute's Board of Directors.

Mr. Schmidt, who died of cancer February 5, was A.I.A. Central States Regional Director from 1948 to 1951.

(*Continued on page 298*)

Schools for the Very Young

by HEINRICH H. WAECHTER, A.I.A.
and ELISABETH WAECHTER



THOUGH many volumes have been written about school design, "Schools for the Very Young," a brand new book just off the press, is — so far as we know — the first in which an architect and a child educator have collaborated to provide an up-to-date treatise on the requirements of the particular type of school demanded for the proper training of the very young child.

Beginning with a brief yet adequate historical and philosophical background, in which the development of the theory and practice of child education is discussed, the book goes on to describe the pre-school in action, noting the events of the school day and the corresponding environmental needs of the children and their teachers. Examples of existing pre-schools are presented with critical comment. Detailed information is given concerning the space apportionments and arrangements called for by the activities peculiar to such institutions. Since one of the authors is especially concerned with city planning, the relation of the pre-school to its neighborhood and community is analyzed, and the many different types of pre-schools that have developed to meet special conditions are enumerated and explained.

The outdoor space and its proper equipment are thoroughly covered from the standpoint of a capable architect who has given much thought to the problem. Technological problems of construction, lighting, ventilation, mechanical equipment, etc., are scrutinized in the light of the most recent practice. A wealth of illustrations add both interest and information, and a selective bibliography will aid further study.

You can be among the first to have a copy of this new book by placing your order now. 208 pages, 7⅜ x 10, stiff binding. Price $6.50.

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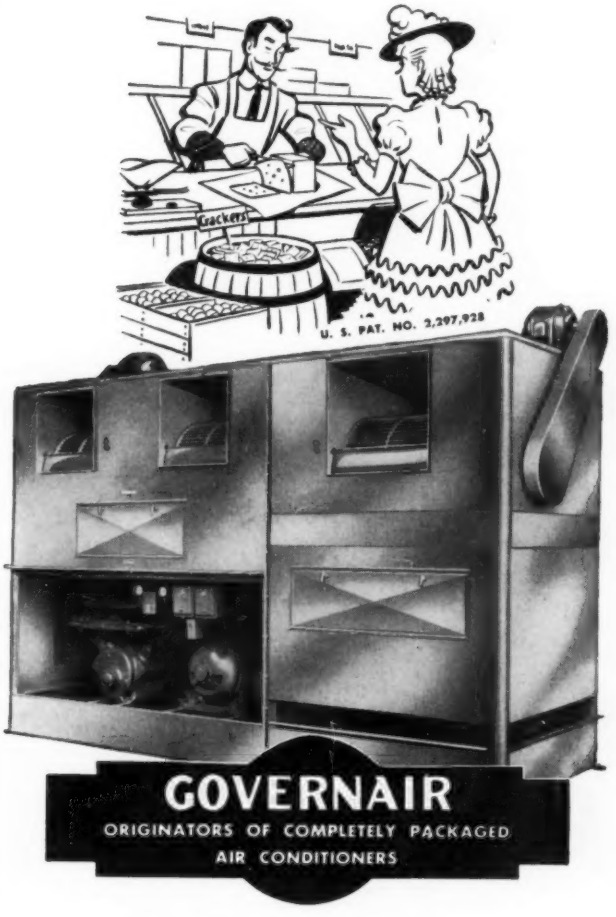

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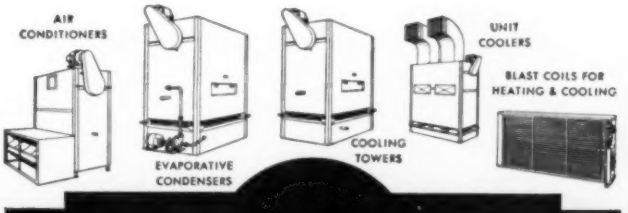

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THE RECORD REPORTS

(*Continued from page 296*)

His advancement to Fellowship last year cited Mr. Schmidt for service to the Institute.

ELWOOD WILLIAMS, 76, of New York City, a retired architect who was employed by the New York State Department of Public Works from 1926–1944, died May 23 after a long illness.

Mr. Williams, who had been associated with the designing of the St. Louis Exposition of 1904, taught architecture at Wentworth Institute in Boston in 1915–16. He was associated with the firm of Eggers & Higgins in New York for a few years after his retirement from the State post. He was a member of the American Institute of Architects.

WALLACE PEARNE BEARDSLEY, 54-year-old Auburn, N. Y., architect, died May 18 of a heart attack. Mr. Beardsley, who received the Bachelor of Science in Architecture degree at Cornell in 1919, had been Syracuse, N. Y., city engineer in 1927–28 and wrote that city's building code. From 1928 to 1935, he was in partnership with S. E. Hillger, and for the last two years of the partnership was temporary Emergency Relief Administrator and district engineer in Rochester and Washington.

Mr. Beardsley was in private architectural practice from 1935–42 and was then for two years project manager and field representative for Shreve, Lamb & Harmon at the Sampson, N. Y., Naval Training Station. He was made chairman of the Auburn Council Planning Commission in 1943.

LEWIS JEROME JOHNSON, 85, professor emeritus of civil engineering at Harvard University, died April 16 in Cambridge, Mass., after a long illness. He was a member of the Harvard faculty from 1890 to 1934. From 1914 to 1919 he was also a professor of civil engineering at the Massachusetts Institute of Technology.

Professor Johnson helped design and supervise construction in 1904 of the Harvard Stadium, one of the first major reinforced concrete structures. He was a Fellow of the American Academy of Arts and Sciences and a member of the American Society of Civil Engineers.

G. LAURENCE WARWICK, executive secretary of the American Society for Testing Materials and its administrative head since 1919, died suddenly April 23.

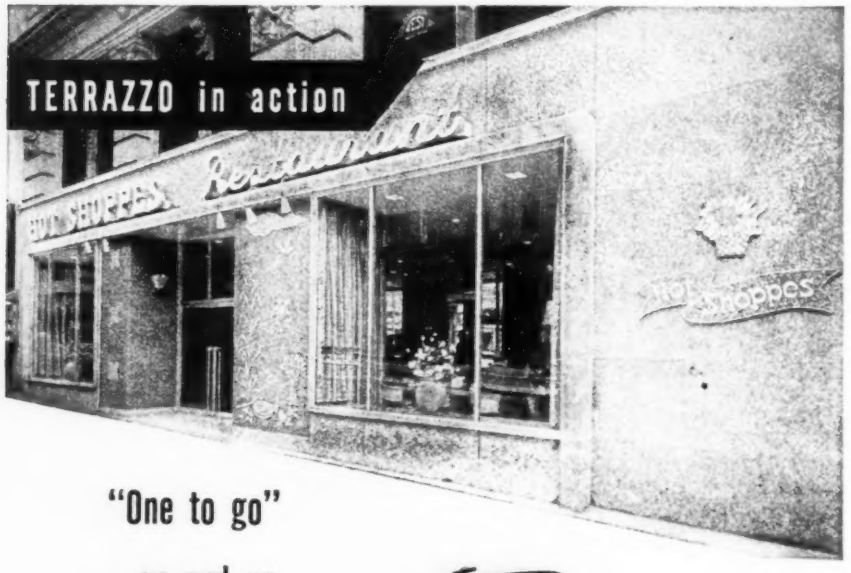
Mr. Warwick had been active in the Society since his graduation from the University of Pennsylvania as a civil engineer in 1909.

During World War II, he served as head of the Specifications Branch of the Conservation Division of the War Production Board and later headed the Materials Division. The work of these groups was credited with enormous savings of critical and strategic war materials through issuance of emergency standards and other devices.

ADDENDUM

The plan and photos on pages 146–147 of the June issue of the RECORD showed the executive area (5000 sq ft) of the offices of Henry Holt & Company. Area of the complete offices is 30,000 sq ft.

(*Continued on page 300*)



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SOUTHERN ILLINOIS UNIVERSITY — has openings for Chief Architectural Draftsman, Senior Architectural Draftsman, and Architectural Mechanical Engineer for school building program — all permanent — Contact Charles Pulley, Director, Architectural Services, Southern Illinois University, Carbondale, Illinois.

SUPT., BLDG. DEPT. — wanted to head Bldg. Dept. of City of Burbank in L. A. Co., Calif. Sal. $683 mo. 5 yrs. admin. exp. in chge. of bldg. proj. is req. Full info. may be secured from Pers. Bd., City Hall, Burbank, Calif.

THE HEBREW INSTITUTE OF TECHNOLOGY — Haifa, Israel, proposes to appoint 1 Professor of Architecture and/or Town Planning. Applicants should have first-rate professional and academic qualifications, be willing to integrate themselves into the life of the country and, in due course, to teach in Hebrew. Applications with full details should be sent, for transmission to Haifa, to: The American Technion Society, 80 Fifth Avenue, New York 11, New York.

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ARCHITECTS — Are you putting out your own plan book of homes or other buildings? Let me do the perspectives and presentation drawings from the plans you send me. References, samples, terms on request. Box 571, *Architectural Record*, 119 W. 40th St., New York 18.

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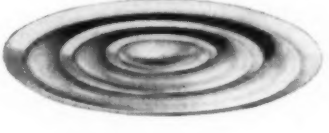

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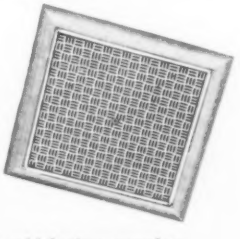

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THE RECORD REPORTS

(*Continued from page 298*)

PRATT STUDENTS PRESENT PUBLIC PLANNING EXHIBIT

"Toward a Better Brooklyn" Reviews Past, Offers Ideas for Future

Currently featured at the Brooklyn Museum is an exhibit which represents one effective method of acquainting the layman with the planning and architectural values affecting the problems, virtues and defects of his urban environment.

Walter Civardi

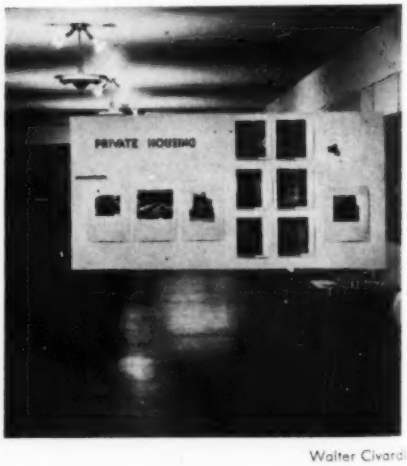
Exhibition, entrance of which is shown above, right and left, was organized, designed and executed by students. Central motif represents expansion of urban areas beyond limits of present facilities

"Toward a Better Brooklyn" includes both historical materials and planning studies, attempts to evaluate the Borough's development to its present state and to suggest means by which it may be improved.

Planned by Students

The exhibit, which will be open through the summer, was planned, designed and executed by senior students in the architecture department of the Pratt Institute. An important part of the show is a group of future-improvement projects by Pratt students which demonstrates how redevelopment and plan-

(*Continued on page 302*)



Walter Civardi

Typical panel shows examples of architecture and planning either in process or already completed

Architects Lundeen and Hilfinger, Bloomington, Ill., designed this modern building for the Kemp Grain Co. of Lexington, Ill. Rilco Laminated wood beams are 36′ long, spaced 6½′ O.C. Rilco V columns are 10′ 4″ high.

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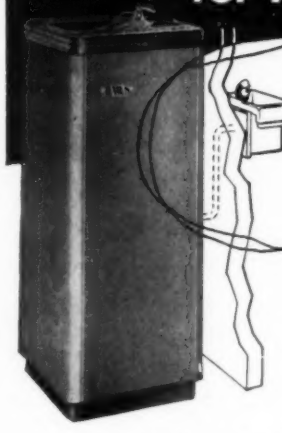

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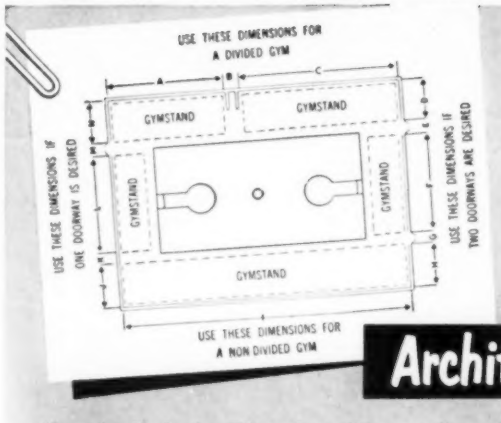
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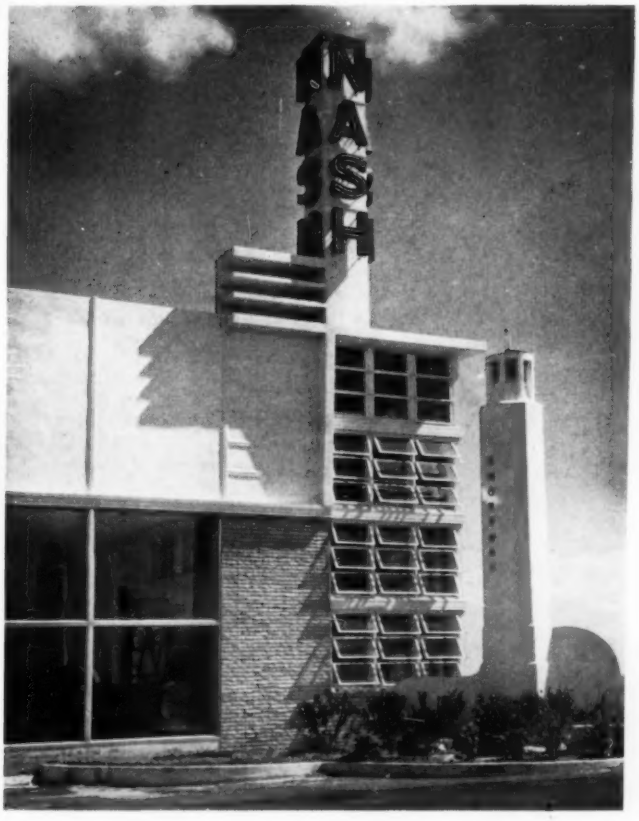

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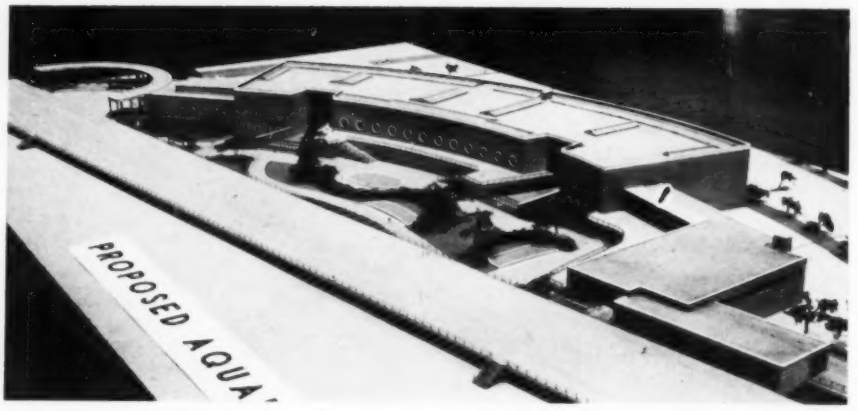
THE RECORD REPORTS

(*Continued from page 300*)

ning can help arrest blight, integrate neighborhoods, relieve traffic congestion, improve industrial and commercial areas and, in general, improve urban living.

Besides the student projects, there are photographs and descriptions of general problems and specific conditions in the Borough, outstanding architectural achievements of both past and present, and official projects for housing, cultural centers and other improvements which are definitely planned or are already in progress.



Walter Civardi

Proposed aquarium was designed by Harrison & Abramovitz, architects. Exhibit included numerous examples of such recreational and cultural projects, in addition to housing schemes, traffic studies

Opportunity for Students

Besides helping to increase general public awareness of the function of architecture and planning, the exhibition provided a real opportunity for an architectural school to work with community agencies and institutions in analyzing and evaluating community problems and proposed solutions. In this way, the school was able to perform a service to the community and at the same time give its students a chance to participate in the solution of actual problems.

(*Continued on page 304*)

Walter Civardi

Brooklyn Civic Center, shown in model above, is already partly completed. Large building at top center is finished Transportation Building, Andrew J. Thomas, architect

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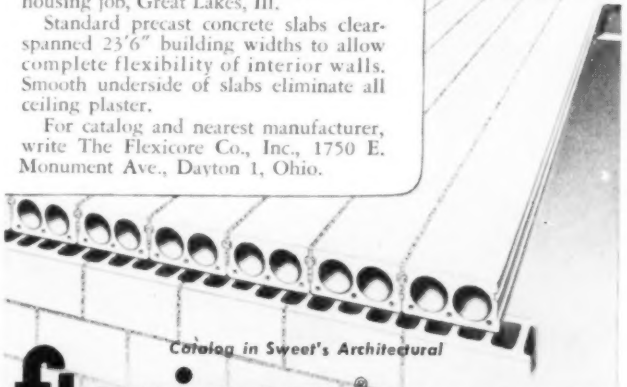

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(*Continued from page 304*)

MODEL HOUSE SHOWN BY CLEVELAND A.I.A.

A completely furnished model house was exhibited by the Cleveland Chapter of the American Institute of Architects at the 1952 Cleveland Home and Flower Show.

"The American House" was designed by Anton G. Nosek Jr., A.I.A., and John E. Miller, A.I.A., who were selected to design the house by a committee of the Cleveland Chapter. Henry Pree was landscape architect.

Robert C. Hoffner

Robert C. Hoffner

Exterior (above) and (below) an interior of A.I.A. model house featured in Cleveland Home and Flower Show

The chapter undertook the project as an example for the general public of the way in which an architect is able to satisfy the specific requirements of a particular family, on a given site, in the existing climate.

An exhibit planned and erected by the students of the School of Architecture of Western Reserve University helped to explain this contemporary approach to planning as the most direct possible solution to the special requirements of each client. There was also a descriptive brochure distributed to visitors by the Cleveland Chapter; and a member of the Chapter was always at hand to answer questions.

The Chapter's model house project is now in its fifth year and has become an established custom at the show. In previous years, houses were called "The House of Ideas," "The House that Jack Built," and "A House to Remember."

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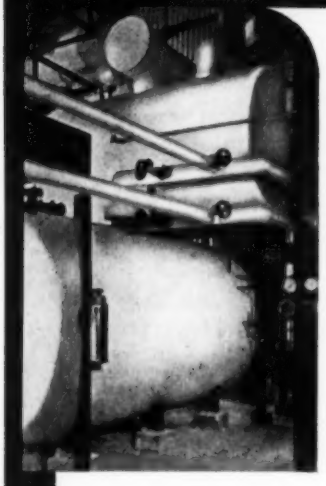

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(*Continued from page 306*)

MANHATTAN HOUSE WINS NEW YORK A.I.A. AWARD

Awards honoring "the outstanding apartment house constructed in New York City during the past two years" have been given for Manhattan House by the New York Chapter of the American Institute of Architects.

Albert Mayer, representing Mayer & Whittlesey, and Louis Skidmore, for Skidmore, Owings & Merrill, associated architects for the project, Gen. O. L. Nelson Jr., vice president, Housing Department, and G. Harmon Gurney, chief architect for the owners, New York Life Insurance Company, were presented with bronze medals and certificates.

Some 30 to 40 new apartment houses had been screened by the Chapter's committee on awards to select the building which "by distinction of planning, mass, detail and use of materials contributes most to the metropolitan scene." The initial number was narrowed to six buildings, either completed or almost completed, and from this group Manhattan House was unanimously selected by the committee.

Wurts Brothers

Manhattan House, which was awarded New York A.I.A.'s apartment house award, occupies entire city block from 65th to 66th Street and from Second to Third Avenues

Keally Makes Presentation

Francis Keally, Chapter president, who presented the awards, called the building "imposing in size, extremely attractive in appearance, and beautiful in detailing and materials."

"Unlike most of the buildings inspected," he remarked, "Manhattan House shares the outdoor space, so often contained within interior courtyards, with the surrounding neighborhood. Its simple rectangular plan and its relatively low ground coverage achieve the best natural light, air and sunshine for its inhabitants and contribute a wide spaciousness to the surrounding neighborhood."

Use of Materials Criticized

In its report, the committee said that few of the buildings which survived the preliminary investigation were well-organized in mass and that the most characteristic lack was a judicious use of exterior materials. Chairman of the Committee on Awards is Eric Kebbon, and the subcommittee on the Apartment House Medal includes Morris Ketchum, Jr., chairman, John C. B. Moore and Richard B. Snow.

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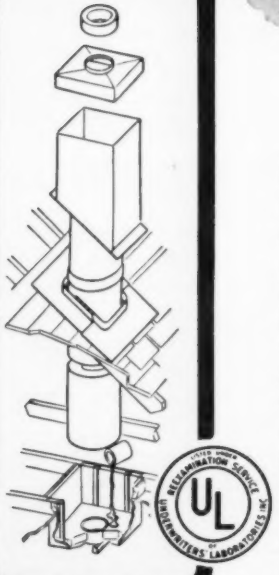

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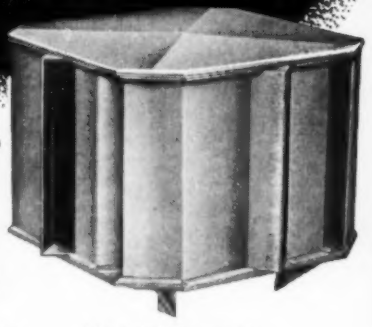

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THE RECORD REPORTS

(*Continued from page 310*)

R.I.B.A. HEAD TALKS OF ENGLISH BUILDING

Although the U. S. has ample room for outward expansion in its urban redevelopment, England will have to develop its cities "inwardly" in the future, according to A. C. Henderson, Royal Institute of British Architects president.

Gretchen Van Tassel

Mr. Henderson, right, and Mr. Spragg, center, present candelabra to the A.I.A. for the Octagon. Receiving it is James R. Edmunds, Jr., A.I.A. past president

Mr. Henderson, who together with C. D. Spragg, executive secretary of R.I.B.A., recently completed a tour of Canada and the U. S., took time out in Washington for an interview before he left for home. Although hesitant at giving his impressions of American architecture — on the grounds that he had not been able to see enough of it — the R.I.B.A. chief talked freely about the situation in England.

Higher Buildings Needed

Amplifying his remarks on Britain's severe land problem, Mr. Henderson said that even though rings of substantial Victorian construction encircle the center portions of old cities, England does not dare develop farther out into the country: "We must leave some land for farming." As a result, he feels that there will have to be some higher tenement buildings in England's future housing programs, with more room

(*Continued on page 318*)

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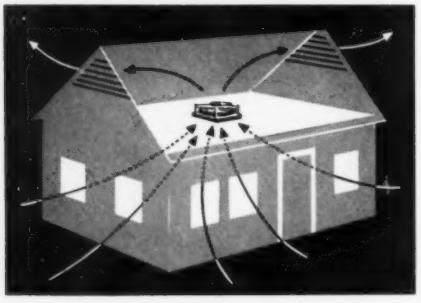

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SEE OUR FILE IN SWEET'S

THE RECORD REPORTS

(*Continued from page 314*)

around buildings. Some elevator types are beginning to appear, but more are needed. There is simply not land enough to build low, garden-type apartments with enough space around them.

Housing Controls Rigid

The British government is beginning to allow more people to build their own houses, privately, but by U. S. standards, controls over housing construction are still rigid, Mr. Henderson noted. Ninety-five per cent of housing construction is financed by the government, with local communities doing the erecting.

The labor government cut down on private enterprise in the construction field as heavily as it possibly could. The new government, however, has indicated that it will eventually permit about half the housing to be privately built. All housing is heavily subsidized and rents would be double what they are if this were not the case. Both Mr. Henderson and Mr. Spragg feel that even if the government were to permit unlimited volume, there would be relatively small demand for private housing construction. Even without controls, they said, the market would be limited.

School Development Praised

Although a substantial portion of England's postwar building activity has been in housing, there has been a large

(*Continued on page 322*)

Architectural Review

Higher apartment buildings are cited by Henderson as being necessary in increasing numbers for England. Block of 4-room flats shown here is in London's Cromer Street Housing Scheme, Hening & Chitty, architects

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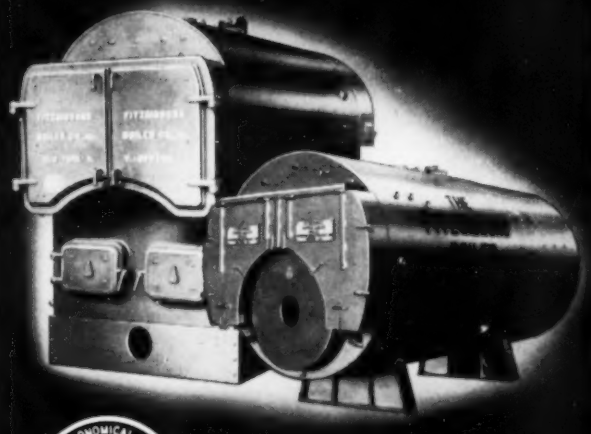

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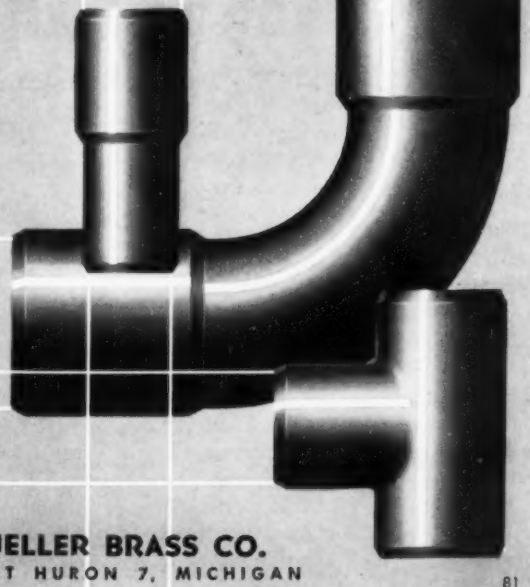

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Study room and library in High School at Taft, Oregon. Architect, Robert A. Miller, A. I. A.

a study in *Study Rooms . . .*

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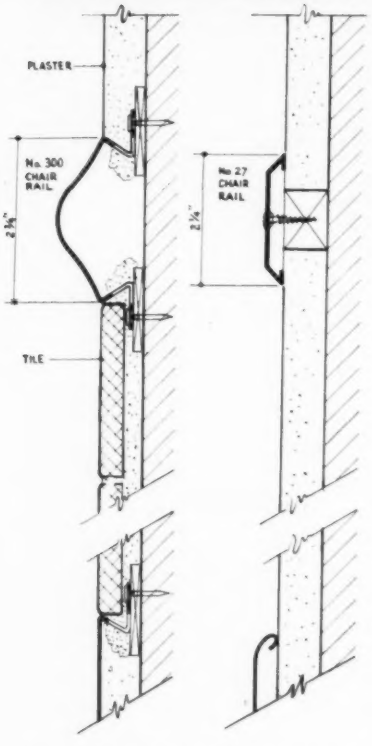

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THE RECORD REPORTS

(*Continued from page 318*)

Architectural Review

School construction was praised by Henderson for maximum exploitation of scanty resources. Above is Stevenage Secondary School, Yorke, Rosenberg & Mardall, architects

volume of school building as well. British architects' achievements in postwar school construction — their use of materials and adaptation of substitutes — were described by Mr. Henderson as being "under the circumstances the greatest anywhere."

Like housing, schools must face the necessity for land conservation and although some of the first postwar programs were a little extravagant in land use, lately the planners have done better, Mr. Henderson felt. Where the earlier schools sprawled, the present ones are going up two and three stories, and the quality is high. Controls on school construction are maintained by a price-per-project regulation.

Defense Approach Differs

On the subject of defense construction, Mr. Henderson observed that England is aiming at quick rehabilitation of structures demolished by bomb blasts rather than at total protection in the initial construction stage. Mr. Spragg commented in connection with this that England probably doesn't take as strong an account of "protective" construction as it might otherwise because the country has such a severe steel shortage. If unlimited materials were available, he believes a stronger emphasis would be given to civilian protection.

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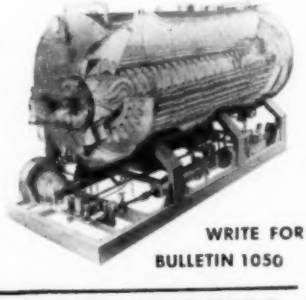

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REQUIRED READING

(Reviews continued from page 48)

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BOOKS RECEIVED

Shades and Shadows. By William Wirt Turner. The Ronald Press Co. (15 E. 26 St., New York 10, N. Y.), 1952. 6 by 9 in. 115 pp., illus. This is a standard text on the subject, designed to amplify a course of study outlined in the author's previously published set of work sheets.

The Harvard List of Books on Art. Compiled by E. Louise Lucas. Harvard University Press (Cambridge, Mass.), 1952. 5½ by 8 in. 163 pp. This list was designed to stress those books on art which a library could secure without undue difficulty. Emphasis is on architecture, sculpture, painting, and drawing, using classifications of: Reference Handbooks and Indexes, Iconography and Symbolism, History and Esthetics, Architecture, Sculpture, Painting, Graphic Arts and Illumination, Minor Arts, Individual Artists, and finally, facilitating cross reference, an Index of Artists and Authors.

Housing — Mass Produced. Edited by Phyllis M. Kelly and Richard W. Hamilton. Albert Farwell Bemis Foundation, Massachusetts Institute of Technology (Cambridge, Mass.), 1952. 7½ by 12 in. 41 pp., illus. Proceedings of the conference "Housing — Mass Produced" held at M.I.T. on Jan. 14, 1952: Covering projects by student teams based on — the Gunnison Prefabricated Panel House, the Acorn Packaged House, Site Prefabricated House, and New Concepts of Design by Buckminster Fuller — each followed by discussion by a panel of experts on industrial housing who later discussed important factors which influenced the development of their organizations.

The Economic Design of Rectangular Reinforced Concrete Sections. By T. P. O'Sullivan. Sir Isaac Pitman & Sons, Ltd. (London, England), 1950. 5½ by 9 in., 76 pp., illus. This is an investigation of the design of rectangular reinforced concrete sections subjected to direct

(Continued on page 330)

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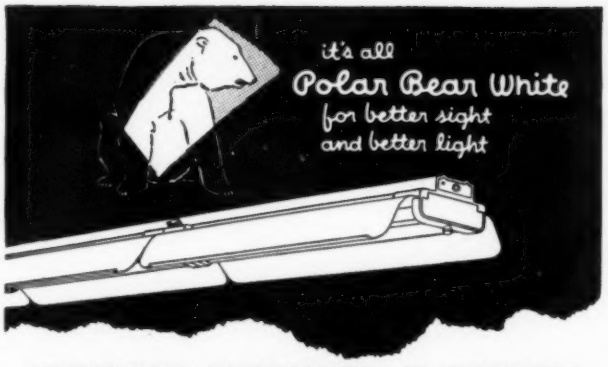

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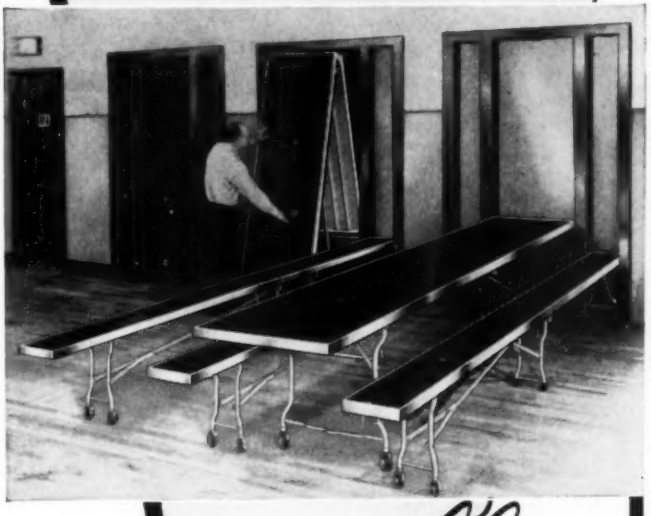

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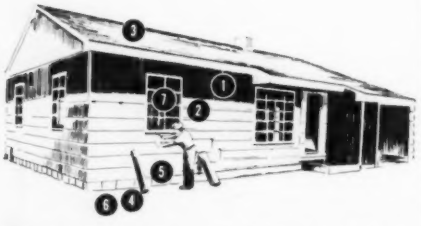

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REQUIRED READING

(*Continued from page 326*)

compression, direct tension and bending. Included as Appendix II is a rapid analysis of frames and arches not amenable to moment distribution methods.

National Plumbing Code. By Vincent T. Manas. Manas Publications (4513 Potomac Ave., N. W. Washington, D. C.) 1952. 5¼ by 8½ in., 188 pp., illus. This book, written by the executive secretary of the Coordinating Committee for a National Plumbing Code, was devised as an illustrative interpretation of the National Plumbing Code, for the use of architects, engineers, manufacturers, city officials, plumbing contractors, inspectors and journeymen.

Baustofflehre. By Eduard Jobst Siedler. Verlag des Druckhauses Tempelhof (Berlin, Germany), 1951. (text in German) — This book devoted to the "understanding of building materials" was designed as a companion to the volume on apartment planning listed below. All the traditional building materials — wood, masonry, tile, steel, iron, asphalt, glass, concrete, etc. — are treated as to the nature, manufacture and use of the material and presented with a number of photographs and data tables. Other sections treat on such items as color, hardware, interior finishing materials.

Grundrisslehre. By Siegfried Stratemann. Verlag des Druckhauses Tempelhof (Berlin, Germany), 1951. (text in German) — This book on the "understanding of floor plans" analyzes in considerable detail the space and equipment requirements and organization for apartment houses. Sections are devoted to each of the usual room types — living-rooms, bedrooms, kitchens, baths, stairs, halls, etc. — with illustrations in dimensional drawings on basic plans. The book was designed as a reference book for practicing architects and advanced students.

Comparative Digest of the Principal Divisions of State Planning Laws Relating to Housing, Slum Clearance and Urban Redevelopment as of January 1, 1951. U. S. Government Printing Office (Washington 25, D. C.) — The first of a series of legal studies being undertaken by the Division of Law of the Office of the Administrator of the Housing and Home Finance Agency.

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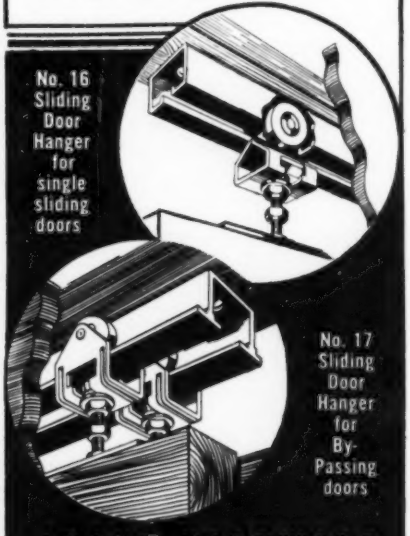

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